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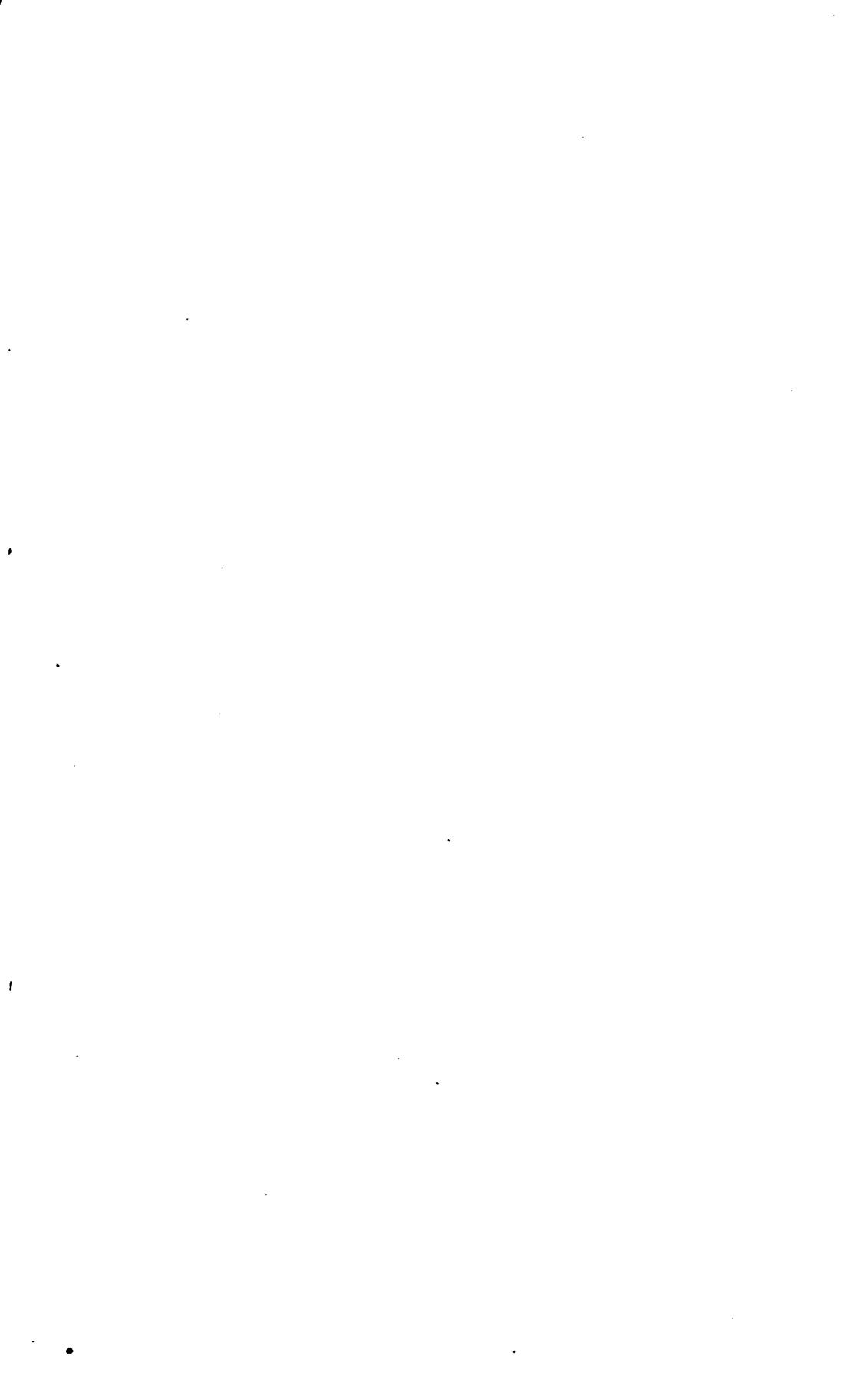
SYDNEY
OBSERVATORY.

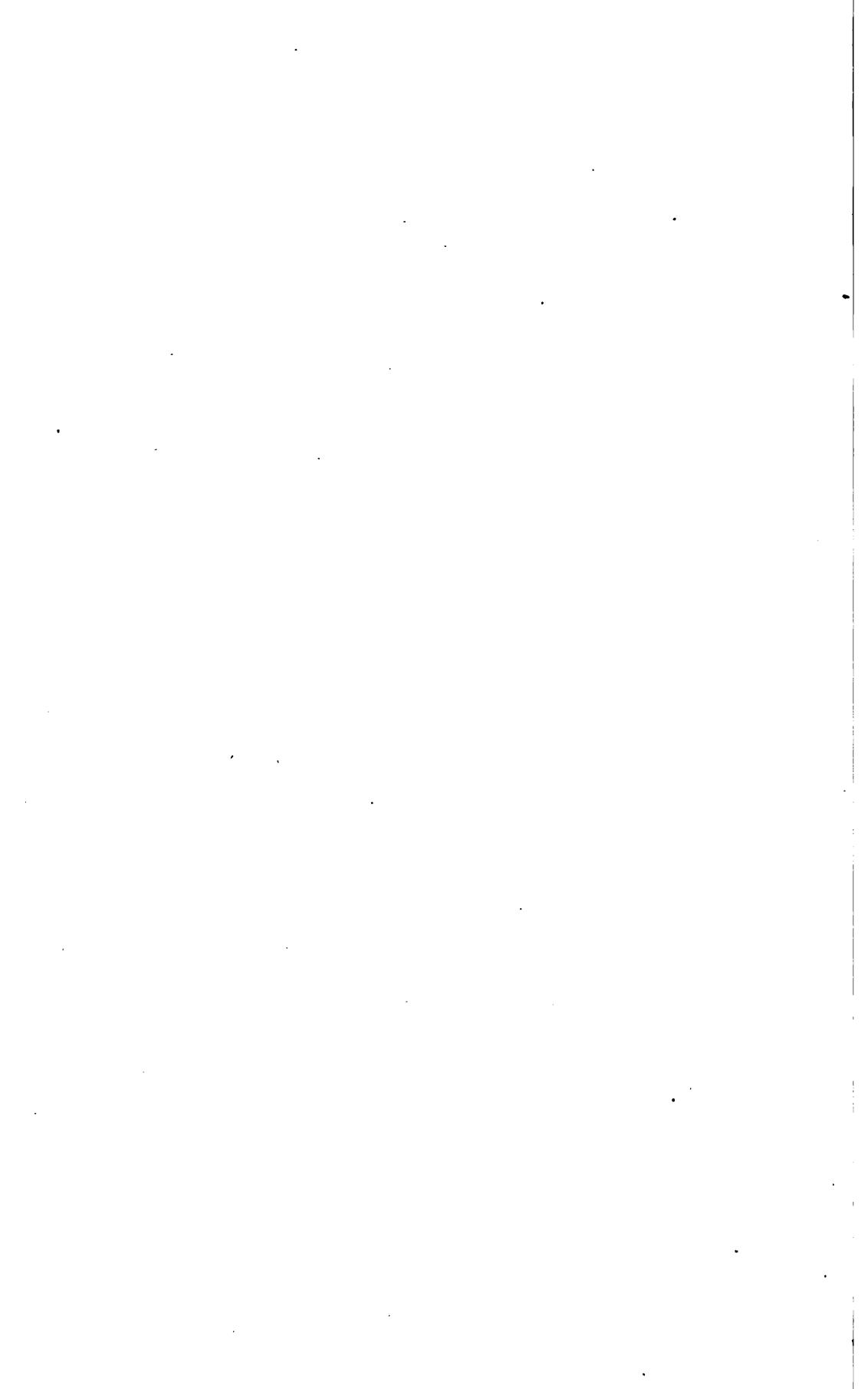
ASTRONOMICAL RESULTS,
1877-78.



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1843 d. 19.









SYDNEY OBSERVATORY.

RESULTS

OF

ASTRONOMICAL OBSERVATIONS

MADE AT THE

SYDNEY OBSERVATORY,

NEW SOUTH WALES,

IN THE YEARS

1877 AND 1878,



UNDER THE DIRECTION OF

H. C. RUSSELL, B.A., F.R.A.S.,

GOVERNMENT ASTRONOMER FOR NEW SOUTH WALES.

Published by authority of Her Majesty's Government in New South Wales.

SYDNEY: THOMAS RICHARDS, GOVERNMENT PRINTER.

1881.

INTRODUCTION.

In the first volume of observations published by the Sydney Observatory will be found a description of the building and instruments in use at that time ; but since then the former has been much enlarged, and the latter replaced by new and larger instruments. It seems therefore desirable to give in this first volume of observations made with new instruments some account of them and the building, so far at least as they affect the observations in this volume. The description of the large equatorial will be found in the volume of transit of Venus results, and those of the meteorological instruments scattered through the annual volumes, but principally in 1873-1878, and 1879.

SITUATION.

The site of the Observatory is the best that could have been chosen in Sydney, placed as it is on one of the many headlands projecting into the harbour ; it is for that reason on the outskirts of the city, on the north side, and but few buildings can ever be made between it and the water, which surrounds it on three sides, east, west, and north ; fortunately also it is on these sides that the prevailing winds blow, so driving away the smoke of the city, which lies to the south and south-east.

It will be seen in the map that the building is placed on the highest land of and near the centre of Flagstaff Hill Reserve, which has an area of 10 acres, and is planted with ornamental trees, and surrounded with stone wall and iron fence. The main floor is 152 feet above the mean sea-level, and the time-ball 61 feet above this, or 213 feet, which is high enough to be visible from the greater part of the harbour and city. The hill is solid sandstone, and affords therefore an admirable foundation.

PERSONAL ESTABLISHMENT.

The personal establishment of the Observatory in 1877 consisted of—

Mr. H. A. Lenehan, Astronomical Assistant.

Mr. E. G. Savage, Meteorological Assistant.

Mr. F. M. Bladen, in charge of Weather Map.

In 1878 this was increased by the employment of Mr. L. Hargrave as extra Observer.

The duties of the Observatory have been distributed in the following manner:—The Government Astronomer has taken the full direction and superintendence, together with the work of the large equatorial and all the correspondence.

Mr. Lenehan has general charge of the transit observations with their complete reduction, and all time signals.

Mr. Hargrave is charged with the examination of astronomical work, the computation of double star observations, and the work with No. 2 equatorial, together with some meteorological work.

Mr. Savage has charge of the reduction of the meteorological returns from country stations, and in part with the preparation of the daily weather map.

Mr. Bladen has charge of the meteorological observations at Sydney, and the daily preparation of the weather map.

BUILDINGS.

The photograph will give a better idea of the building than it would be possible to give here; suffice it to say that it is a good stone building. The eastern and southern sides of the quadrangle were built in 1856–7 and the western side (not seen, except part of the second dome) was built in 1877; this was a much needed extension, giving seven additional rooms, and a second dome which was placed so that from it that portion of the eastern heavens which the time-ball tower hides from the old equatorial room can be surveyed.

The instrument mounted here is the fine $7\frac{1}{4}$ -inch Mery refractor, which was described in vol. for 1862; the old dome was described in the 1860 vol. In 1874 the old 18-feet dome was removed and a new one put in its place, to cover the $11\frac{1}{2}$ -inch equatorial. It is 22 feet in diameter, or as large as it could be made on the old walls. It is made of 26-ounce muntz metal or brass, and has no supporting ribs except two put on as guides for the shutters. In the course of construction each sheet was cut of the shape required for its position and then riveted in its place; the edges lapped one inch, and the rivets are $1\frac{1}{2}$ inch apart. The opening for observations is two feet wide, and is covered with three sliding shutters and one on hinges at the bottom; these are so proportioned that any point from the horizon to the zenith can be seen. At the bottom it has a groove of cast-iron, and on the top of the wall is a similar groove. The radius of these grooves is somewhat greater than that of the five balls which roll between; this allows a little side motion, and makes the dome revolve easily—so easily indeed that when once in motion a good push will send it half a revolution. The new dome, 18 feet in diameter, is constructed in exactly the same way, but more care was taken in preparing the cast-iron groove and it works almost too freely, for it sometimes turns under the influence of the wind.

On the ground floor the building contains entrance hall, meteorological computing room, 15×15 ; type room, 9×12 ; transit room, 24×16 ; Astronomer's room, 24×16 ; heliograph room in base of large tower; spectroscope room in base of north tower.

Partly underground are four rooms, making a standard bar room, printing room, magnetograph room* and store. Above the ground floor—photographic room, instrument store room, and three computing rooms. There are besides

* The magnetograph room is below the transit room and the instrument; a photographic one cannot now be used owing to the quantity of iron about the new transit instrument.

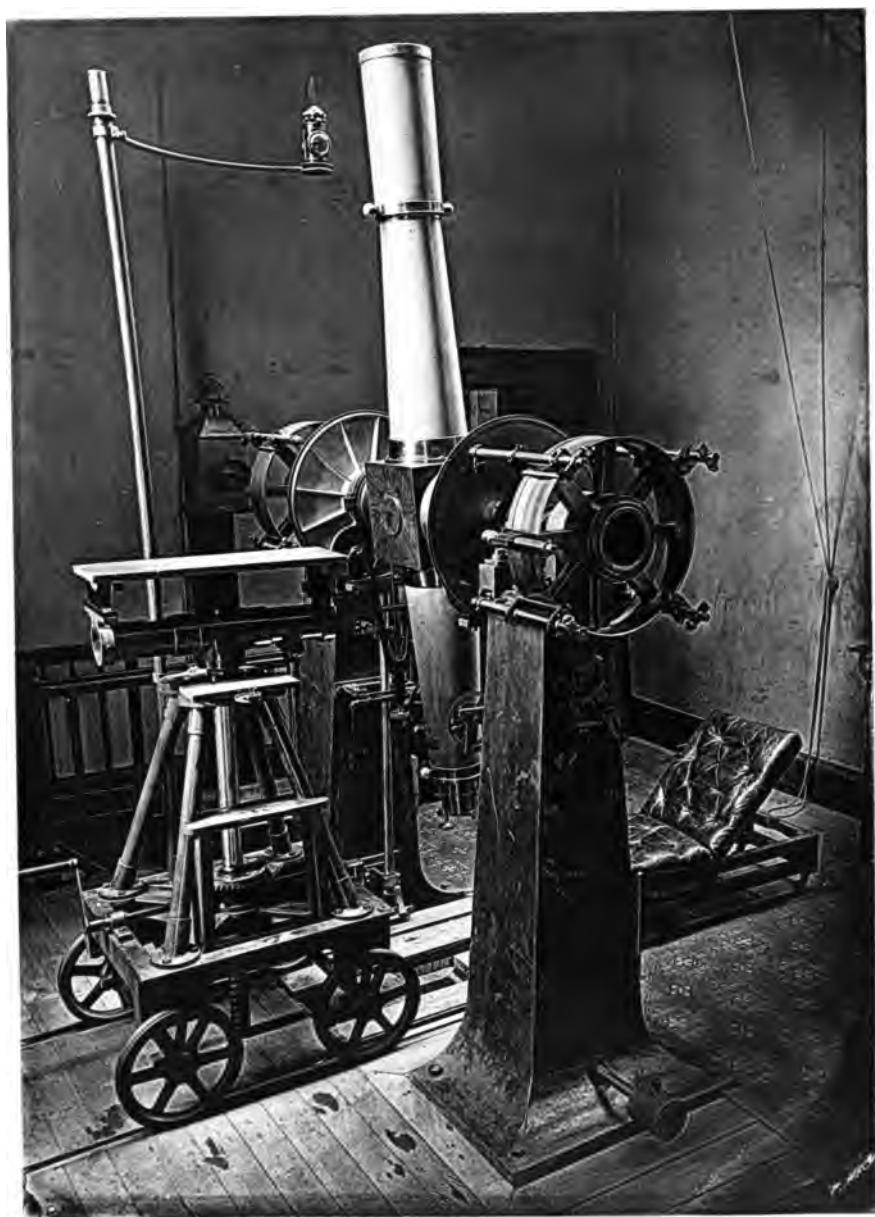
the two dome rooms and four rooms in the time-ball tower, the magnet house, a detached building on the north side, a carpenter's shop, and an instrument shop in a detached stone building.

INSTRUMENTS.

The telescope has an object-glass of $6\frac{1}{2}$ inches, of which only 6 inches is clear; its focal length is 85 inches. Its tube is made of two cones of wrought brass made as light as was consistent with strength; the fittings of the object-glass and eye-piece are also as light as possible, and the large end of the cone, where it is attached to the axis cube, is turned under the ring of brass by means of which it is fixed to the axis. These precautions against flexure were taken at my request by Mr. Simms, with what effect will appear in another part of this introduction.

The axis is of gun-metal, and the central cube 13 inches on each side; the two cones are perfectly symmetrical both in outside form and in the inside strengthening braces, all being one splendid casting. So careful was Mr. Simms, that a first casting, which revealed a slight flaw when nearly finished was rejected, in order to secure one that was perfect. The bearings are steel cylinders $3\frac{1}{2}$ inches in diameter (outside), turned to fit perfectly into the end of the gun-metal, and fixed by shrinking on the end of the gun-metal a steel ring half-inch thick and one inch wide; this has effectually fixed the steel bearings without the use of solder, which has more than once been found very unsatisfactory for this purpose.

The circles are discs of cast brass, supported on the back by radial arms; they are in fact exact copies in form of the splendid dividing engine circle in Mr. Simms's possession. This form was adopted so that the metal might flow evenly in the casting; and a disc without radial supports would have been chosen, but Mr. Simms could not guarantee that it would not twist after it was finished. The diameter is two



SYDNEY TRANSIT INSTRUMENT
AND
REVERSER.

fe
c
b
T
a
f

feet, and the graduations on silver are to five minutes; both circles are exactly alike, but one is fixed and the other may be turned on the axis at pleasure for the purpose of testing. This circle, however which is marked A is not quite so good as B. The latter is very nearly, if not quite perfect, judged from a practical point of view.

The piers of the telescope are of cast-iron, both exactly alike and hollow; at the top they measure 10 in. \times 11 in., and at the base where they rest on the stone 23 in. \times 38 in.; the form will be seen in the photo.; the inner side is straight from top to bottom, while the other three sides spread out towards the base. The counterpoise levers are hidden partly in the piers, but in the photo. part of the one on the distant pier can be seen, and the stage was removed from the near pier to show one of the weights. From these levers rise the two rods carrying each a pair of friction rollers. The levers have adjustable weights, and only about 7 lbs. is left upon each Y. The Ys have brass bearings, which form parts of a cylinder, and are not provided with motion either in level or azimuth, making it difficult to set the piers in the first instance, but very satisfactory when once done. A grinding tool the exact counterpart of the axis at its ends was supplied with the instrument, and with this a minute final adjustment is possible. Close fitting card-board covers keep dust out of the bearings.

On the top of the piers a circle 21 inches in diameter is placed to carry the microscopes (see photo.); it is provided with screw motions not visible in photo., so that the axis can be made to coincide with the telescope axis. When this is done it is easy to place the microscopes 90° apart. Through the centre of this circle there is a hole 5½ inches in diameter, which serves to admit light into the telescope for the wires, and on to four prisms which throw the light on to four others, and these on to the circle at points under each microscope.

The microscopes are 21 inches long, are graduated to seconds, and magnify 60 diameters.

A reading pointer is provided on the same circle as the microscopes; it is of low power, and is most convenient for reading degrees and 5-minute spaces.

The gas-light for this instrument is enclosed in a lamp with a large bull's-eye, and stands 5 ft. 4 in. from the end of the axis, and has no appreciable heating effect upon the metal. (See photo.)

The collimation micrometer has a head divided in the ordinary way into 100, and a second head on the same axis also divided into 100 for the purpose of counting the revolutions. This is effected by a series of wheels hidden from view, and so proportioned that 100 turns of the screw turn the counter-head one revolution. This arrangement was supplied by Mr. Simms, and is a more convenient one than having a comb-counter for the revolutions. The head of this micrometer is protected by a small brass box which effectually shields it from being accidentally moved, while the pointer can be seen without removing it.

Mr. Simms provided the instrument with three sets of five wires. These were removed and a set of seven inserted—the intervals being about 5 seconds for an equatorial star. With this interval it is possible to observe by eye and chronograph, or by ear, and too much time is not lost when observing by eye and ear. (See page 13.)

The declination micrometer has only one wire, and is fitted with head-counter similar to that on the collimation micrometer. For the purpose of observing Mars a second wire was put in 19°.68 from the zero wire, but as it was found to be somewhat in the way when taking the nadir readings it was removed.

By means of two multiple-threaded screws the eye-piece can be moved rapidly across the whole field, both in R.A. and declination, and all the eye-pieces, including that for the

reflection observations, fit into the same slide; the powers are 100 and 145, the 145 being always used for star work, and a second one of 100 fitted with green shade before and variable red one near the eye is used for observing the sun, for which purpose the aperture is generally reduced to 3 inches.

By means of a handle near the eye-piece the observer can in a moment change from bright-field to bright wires, or the reverse. This is provided for by means of a reflector and four prisms, two being near the wires, and two attached to the reflector.

The eye-piece for reflection observations is 6 inches long, but gives very fine definition of the wire and its shadow. There are two setting circles seven inches in diameter, one on each side of the tube near the eye-piece.

The electrical key is not attached to the eye-piece, but to the west pier, from which it hangs by a long spiral of insulated wire, and the observer takes it in his hand when about to observe. The spiral is sufficiently long to prevent any strain being put on the pier when the observer is using the key, and the possibility of side strain on the telescope which might arise from having the key attached to it is obviously avoided. The method is found very convenient in practice, and is not liable to be put out of circuit by dust, as contact by means of springs on the axis is apt to be.

In the photo. and on the north side of the transit will be seen the reverser on the tramway by which it is run under the instrument. It will be seen that a small wooden stage is upon the Ys made to support the telescope; this is for convenience of standing on when observing the nadir placed north and south; when used for lifting the telescope it is of course placed east and west, and the platform removed. The lamp-stand will also be seen attached to the reverser; this is of course movable. To lift the telescope the handle has to be turned, and that turns a screw nut by which the instrument is raised. It is very easily done, and being a screw

lift no slip or jerk can take place. When up the transit can be reversed very easily, and a guide-pin obliges it to come down exactly 180° from the position in which it was lifted. The tramway runs into a recess in the wall, and when not in use the reverser is run into this recess and the door closed flush with the wall.

Under the telescope, in a small recess in the stone base, is the mercury trough; it was purposely uncovered at the time the photo. was taken.

The observing chair is shown raised at the south end, but either end may be raised, and between the chair and the pier may be seen a straight rod by means of which the chronograph tape may be started or stopped.

On the telescope tube may be seen three out of four ivory knobs, which were put on for the purpose of taking hold of when the instrument has to be moved, so that the heat of the hands may not affect the brass.

COLLIMATORS.

The north collimator is a telescope of $2\frac{3}{4}$ in. aperture and 33-inch focus, fixed on a very massive sandstone pier outside the building; the pier is painted. The south collimator is a 4-inch lens of 43 feet focus fixed into the south wall of the building. In the focus of this is a plate of silver with two small crosses engraved upon it.

CLOCKS.

The transit clock was made by Frodsham for the Observatory; the workmanship is good, but it has never kept such perfect time as it was hoped it would. This became more evident when tried by a better transit instrument, and in 1877 I placed it in Mr. Allerding's hands for a thorough examination. A slight fault was found on one of the pallets and polished out, and one or two minor repairs effected which made a decided improvement in the clock's rate. It was

found also that a steadier rate was maintained if the electrical contact was left constantly at work. This contact is of the tilt-hammer form; that is, a wheel of 60 teeth is fixed on the escape-wheel axis and a light lever rests against this wheel; as the wheel moves second by second the end of the lever passes up into the spaces between the teeth and the other end falls on a point and makes contact; one space on the wheel is filled up so that there are only fifty-nine contacts for each minute. Adjustment is provided for the duration of contact, and in practice a contact of less than a 20th of a second is not safe unless a very strong battery is used.

The mean time clock is by Grimaldi, and although old is much better made than the modern one. At present it has too many duties to perform, but the rate is nevertheless small and is always a losing one. A weight having free motion on the pendulum rod rests on the bob, and can be lifted by a string passing over a wheel level with the spring; when it is raised the clock gains 1s. in three minutes, and by means of this the clock is corrected every day at 12h. 30m. for any error. It is provided also with an electric contact like that in the transit clock, and every day from 12h. 45m. to 12h. 50m. it beats seconds on the telegraph line to Newcastle (100 miles by wire), and the person in charge of the time-ball there receives the ticks on his chronograph side by side with those of his clock, and when the two coincide he disconnects, and puts down the adjusting weight in his clock, which is then ready to drop the ball; this it does in the same way as the Sydney clock.

The mean time clock is also provided with a wheel on the minute hand axis in which are two nicks; on this wheel rests a tilt-hammer, and as soon as the hands of the clock point to 53m. 30s. one of these nicks allows the tilt-hammer to fall and make circuit for two minutes, when it lifts the lever and at 59m. 30s. another nick allows it to drop and make contact again; these contacts are, however, only part of the arrangement for dropping the ball; there is a similar wheel on the

seconds hand axis and a similar lever, and when the second hand falls on 60s. a nick in the wheel allows the lever to fall and make contact; this of course takes place every minute; but the circuit can only be completed through the two levers, and therefore only at 54 and 55 minutes and at the complete hour. The first signal serves as a warning to the man who winds up the ball, and at the 55m. one he begins to wind up.

A third duty the clock has to perform, and that is to make a contact every hour for the barograph, so that the hour lines are ruled in exactly and by the same pen which records the height of the barometer.

This clock with the two chronographs, one on each side, is represented in the third photo. print, and standing by the side of it will be seen the telescope with micrometer, &c., supplied by Mr. Simms, for testing the pivots.

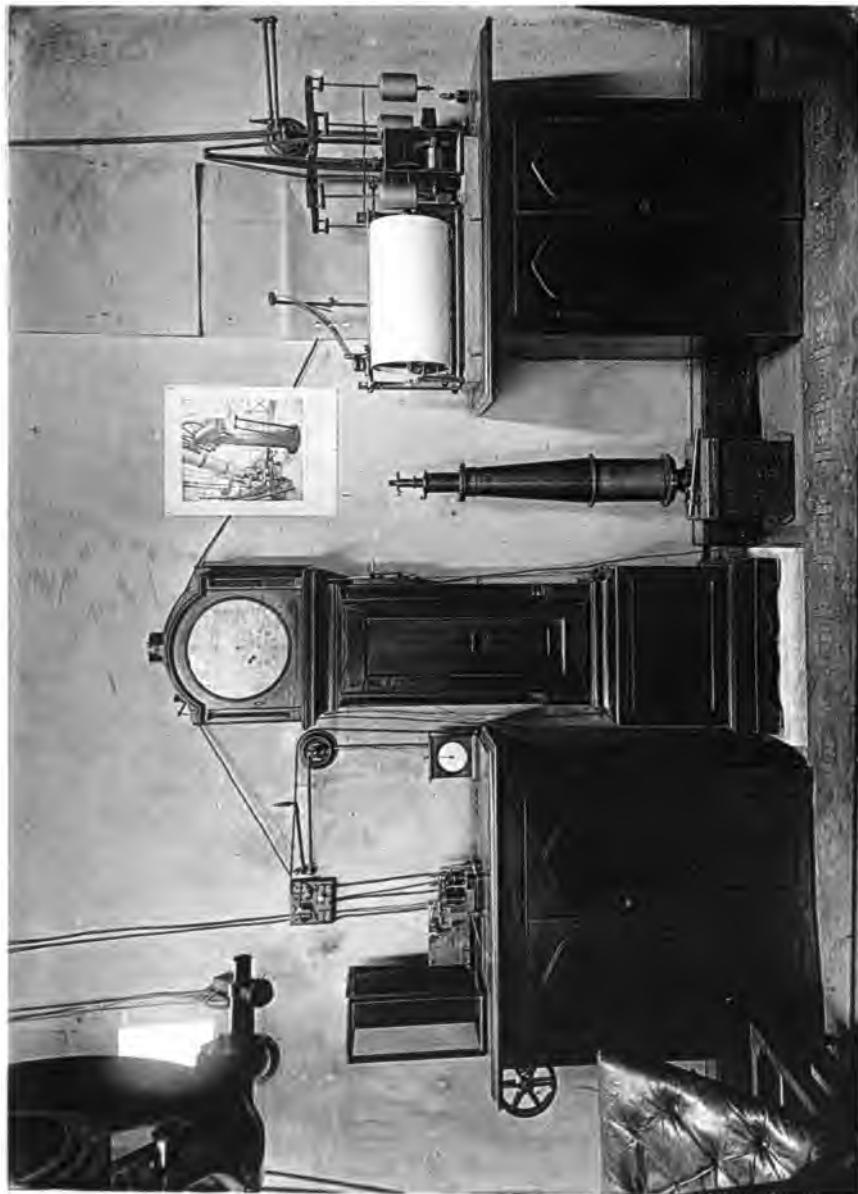
The photo. is not very good, but owing to the size of the room and the various difficulties in the photographer's way, it was only possible to take it with a lens of very short focus—even then part of the transit microscope shows. There is some distortion at the margins, but it serves to show the general appearance and arrangement of the chronographs and mean time clock.

CHRONOGRAPHHS.

One of these is by Siemens, and has a fairly uniform motion under the control of his expanding fly; the paper moves 0.75in. per second between two rollers. There are two pens provided with tilt points so that the paper is punctured but not stopped or torn when it is marked. This chronograph can be started or stopped by a convenient handle within reach of the observer, or at the instrument.

After the error of the transit clock has been found by observation, it is made to beat on this chronograph for about a minute at noon; and the noon signal from the mean time clock is also received on the paper; the exact comparison of

SYDNEY CHRONOGRAPHHS.





the clocks is therefore obtained free from personal equation. All the clock signals can by a commutator be made to pass through this chronograph on to the telegraph lines, so that any required signals can be sent without using the hand to repeat them, and a galvanometer in circuit shows whether they are going correctly. This is found very convenient for many purposes, but especially for determining longitudes of trigonometrical stations.

The other is a barrel chronograph. On this the paper moves $\frac{1}{2}$ -inch to the second, and a sheet of paper 30 inches by 16 inches lasts two hours five minutes, and a new sheet can be put on in one minute. Perfectly uniform motion is obtained by means of four pendulums, each of which is attached (see photo.) by means of a connecting rod, with a point of variable eccentricity in the last wheel of the train. The effect is that, if the driving weight is increased, the amount of eccentricity of the variable point increases with the increasing arcs of the pendulums. Points projecting below two of the four pendulums work in mercury, and are so adjusted that the driving weight may be doubled without making any change in the rate. This clock is only temporary, being an adaptation of the idea which Mr. Barraclaugh, of Sydney, first introduced, viz.—the possibility of obtaining uniform rotary from the oscillating motion of pendulums. In this plan the uniformity is not theoretically perfect, although it is so practically. A clock is now being made for this chronograph, which is intended to fulfil the theoretical condition of perfectly uniform rotary motion.

OBSERVATIONS.

During 1877 and 1878, the period embraced in this volume, observations with the transit instrument have been almost confined to the fixed stars and the regular observation of the sun for time purposes, but the sun observations have not been included here. Nearly all the observations of the planet Mars and stars were made by myself; the other observations

have been made by Mr. Lenehan while I have been engaged with the equatorial.

It has not been deemed necessary to incur the expense of printing the observations in full, but two manuscript copies are carefully preserved, and may be referred to in any case of doubt. In order, however, to avoid the necessity for this, after the observations had all been carefully computed and examined by a second person, the daily results as arranged for publication were compared *inter se*, and any doubtful positions again computed.

The various instrumental errors have been determined as follows:—

INSTRUMENTAL ERRORS.

The collimation error.—This is taken every morning after observations, but the changes are very small. The telescope cube is pierced with two holes, which, after the telescope is set vertical, are opened, and then five readings of the north collimator on the south collimator cross are taken on each side, and the screw set at the mean. The telescope is then turned on the north collimator, and five readings on each side of the collimator are taken. The same is done on the south collimator, and the mean of the twenty readings corrected for diurnal aberration is taken as the collimation reading, and the micrometer set to this, so that no correction for collimation is applied to the observations.

The level error is obtained by means of Bohnenberger's eye-piece. Observations are taken from mercury resting in a copper trough, on Professor Pritchard's plan, which is found to answer admirably, for now there is seldom sufficient vibration to prevent its use, while with the old mercury trough it was difficult to find it sufficiently free for our purpose. Ten readings are always taken, five on each side, and the difference between the mean of these and the collimation reading gives the level error. Level error is taken with every set of stars. For the purpose of reading the level and nadir, steps and a movable top have been added to the

reversing apparatus, as well as a stand for the lamp, so that it may be kept at some distance from the telescope. As the reverser is upon wheels, it is provided with a brake, which is turned on when the stand is required for reflection readings.

The azimuth error was obtained from star transits in the usual manner, using the Nautical Almanac positions with their final corrections.

The perpendicularity of the transit wires was secured by adjusting the eye-piece tube until every part of the middle wire would bisect the wire in the north collimator.

For the application of the errors of collimation level and azimuth, two carefully made brass sliding scales have been provided; with these the error for the day being set at the zero of the scale, the quantity to apply is found opposite the star's declination.

The interval between each wire and wire IV was determined by means of the R.A. micrometer, each wire being made to bisect the wire of the north collimator. Five sets of readings were taken with the following result, the micrometer head being on the west side:—

I.	II.	III.	V.	VI.	VII.
+ 14° 619	+ 9° 954	+ 5° 043	- 4° 792	- 9° 748	- 14° 589

and the mean of the seven wires required a correction of + 0° 069 to wire IV.

In June, 1878, a new set of wires was put in and the intervals determined by five transits of Sigma Octantis over each wire with the following result:—

I.	II.	III.	V.	VI.	VIII.
+ 14° 628	+ 9° 982	+ 5° 041	- 4° 743	- 9° 694	- 14° 518

The mean of the seven being + 0° 099 from wire IV.

When a star has been observed on less than seven wires the mean for those observed is taken and a correction found by adding together the equatorial values of the wires observed; dividing the sum by their number and multiplying the quotient by the secant of the star's declination.

After these corrections have been applied, the clock error is determined from the Nautical Almanac stars, which are always observed for the purpose, and the error of the clock for each star transit thence computed and applied. A correction for the fraction of the year is then applied to reduce to observations to January, 0°. For B.A.C. stars the a.b.c.d. numbers have been taken from that catalogue and combined with the A.B.C.D. numbers from the Nautical Almanac; for other stars the a.b.c.d. numbers have been computed by means of the formula given in the Nautical Almanac. In the few cases of double stars the same corrections have been used for each component.

ZENITH DISTANCE OBSERVATIONS.

Mode of observation:—When the star comes into the field, it is brought just above the horizontal wire, and as soon as it is past the middle wire it is bisected by moving the micrometer screw, or on rare occasions by the tangent screw of the circle. If five seconds elapse before bisection a correction for curvature of path is applied, but not for shorter intervals unless the star be near the pole.

The pointer of the circle is read first, and then the four microscopes F.G.H.I. always in the same order, and then the declination micrometer; all these observations are written at the time in a note-book. No weights are assigned to the observations, but if it appears at the time that an observation is bad it is rejected, and observations for positions are avoided on nights of bad definition.

The value of the declination micrometer was found by means of the collimators and the circle; the interval of ten revolutions was measured twice on the south collimator, giving a mean of 48° 918, and three times on the north collimator, giving a mean of 48° 887; the mean of these is 48° 902; 48° 900 was the value adopted.

FLEXURE.—Observations for the purpose of determining the flexure by means of the collimators were made with the following results:—

February 14	...	...	...	...	...	1·485
", 28	...	...	...	...	...	1·460
March 2	...	...	...	...	...	1·855
", 2 at night	...	...	...	...	...	1·260
", 3 at night	...	...	...	...	...	1·820
Mean						1·576

No correction for flexure has been applied to the observations.

THE NADIR READINGS.

The nadir is found by looking into the mercury trough in the same way as for the level and generally at the same time. Five contacts of the wires on each side give a mean which is taken as that for the nadir. Many experiments have been made to see if the direction in which the telescope was turned affected the nadir and for a time there seemed to be reason to suppose that it did, but this subsequently disappeared and only one reading is taken with each set of stars.

CORRECTION FOR CURVATURE.

The correction to be applied for curvature is computed by means of the formula $\frac{n \pi D \sin 1^\circ}{2} \times \tan. \text{ declination}$, where n represents the number of intervals from the middle wire, and D the value of one interval in seconds of arc.

Corrections for refraction have been computed by means of Bessel's tables as modified and expanded in the Greenwich Observations, 1853, Appendix. The barometer results are obtained for the times from the barograph which is in the transit room, and the external thermometer is read at corresponding intervals.

ARRANGEMENT OF RESULTS.

This requires but little explanation, since it is similar to that usually adopted, with the exception that the mean R.A.'s and N.P.D.'s have been arranged side by side, so that one opening of the book shows all the observations of any star; this arrangement seemed more convenient than having the two positions in separate parts of the volume. The correction

applied to reduce each observation from date to January 1st is given, as is also the mean of all the results for each star and its tabular position. This for Nautical Almanac stars is obtained from the table of mean places of stars, pages 290 to 293. For B. A. C. stars it is the position there given, brought up to date, by means of the precession and proper motion.

THE ANNUAL CATALOGUES.

The stars are here arranged in order of R.A. with reference number and star's name, the magnitude number of observations fraction of the year corresponding to the mean of the times of observation. The mean R.A. brought up to January 1st and the precession computed by means of the formulæ

$$p = r^1 s \quad (m + n \sin. R.A. \cot. N.P.D.)$$

$$p^1 = -n \cos. R.A.$$

Where p =precession in Right Ascension, and p^1 in North Polar Distance, and m . and n . Professor Peters' quantities computed to date.

The N.P.D. observations are arranged like those in R.A.

POSITION OF THE OBSERVATORY.

Longitude.

For the purpose of determining the longitude moon culminations alone have been employed. The following table gives the computed seconds for each year's observations, it being understood that 10h. 4m. stands before each result.

For 1863 the mean of all the first limb observations is	...	...	...	50.40
„	„		second	,, 50.65
„ 1871	„		first	,, 50.98
„	„		second	,, 50.82
„ 1872	„		first	,, 50.67
„	„		second	,, 51.45
„ 1873	„		first	,, 51.18
„	„		second	,, 50.97
„ 1874	„		first	,, 50.22
„	„		second	,, 50.80
Mean ...				50.812

It is evident therefore that observations of first and second limbs are of about equal value. 10h. 4m. 50·81s. is the adopted value of the longitude. If however strictly equal weights be given to all observations of the first and second limbs, the mean becomes 50·69.

A word of explanation as to the interval 1863 to 1871. In 1863 I was temporarily in charge of the Observatory, and from the beginning of 1864 to near the end of 1870 Mr. Smalley was director of the Observatory. I have based this determination of the longitude on my own observations only.

LONGITUDE OF SYDNEY.

From Moon culminations. The Moon's R. A. being corrected by observations made at Greenwich on the same dates.

Date.	Resulting Longitude + 10h. Am.	Limb.	No. of comp. Stars	Date.	Resulting Longitude.	Limb.	No. of comp. Stars	Date.	Resulting Longitude.	Limb.	No. of comp. Stars	Date.	Resulting Longitude.	Limb.	No. of comp. Stars
1863.	s.			1871.	s.			1872.	s.			1874.	s.		
April 3	50·61	1	1	Jan. 3	48·08	1	2	Feb. 19	55·44	1	2	Jan. 1	47·45	1	1
" 27	48·00	1	1	Mar. 1	60·07	1	1	" 27	48·24	2	2	" 2	49·19	1	1
" 29	49·95	1	2	" 10	47·63	2	1	Mar. 22	40·94	1	2	Feb. 27	47·59	1	2
May 2	55·72	1	2	May 3	52·11	2	2	" 26	59·67	2	2	June 23	55·20	1	2
" 4	49·76	2	2	" 5	47·69	2	2	May 21	50·83	1	1	" 25	51·89	1	1
" 5	49·89	2	2	" 26	60·01	1	2	June 14	68·08	1	2	" 29	48·91	1	2
" 6	52·43	2	2	June 2	50·22	1	2	Nov. 14	48·73	1	1	July 23	58·77	1	2
" 25	45·05	1	2	" 3	49·57	2	2	Dec. 14	50·01	1	1	" 24	48·51	1	1
" 27	41·43	1	1	" 10	53·38	2	2	1873.				" 26	48·21	1	1
" 28	42·79	1	2	" 26	48·97	1	2	Feb. 6	51·75	1	2	Aug. 22	49·05	1	1
" 29	55·05	1	2	" 27	48·52	1	2	Apr. 4	48·54	1	1	Oct. 19	51·15	1	2
" 30	48·56	1	2	" 29	49·28	1	2	" 10	55·25	1	2	" 27	51·01	2	2
June 30	51·10	1	2	July 2	44·89	1	1	May 18	52·30	2	1	Nov. 19	48·85	1	2
July 1	54·86	2	2	" 28	53·20	1	1	June 2	52·01	1	1	" 20	52·64	1	2
" 2	51·68	2	2	" 29	50·25	1	2	" 3	44·08	1	2	" 21	49·69	1	2
" 28	49·89	1	2	" 31	58·85	1	1	" 7	47·84	1	2	" 28	50·60	2	1
" 29	50·21	1	2	Aug. 1	48·21	1	2	" 8	55·07	1	1				
Aug. 3	47·39	2	2	" 3	54·77	2	2	" 10	51·12	2	2				
" 5	48·80	2	1	" 25	52·29	1	1	Aug. 5	55·65	1	3				
" 25	56·32	1	2	" 26	45·55	1	2	" 7	52·50	1	2				
" 26	55·98	1	2	" 28	47·45	1	2	Oct. 6	49·48	2	2				
" 28	48·75	1	2	Sept. 25	47·03	1	1								
Sept. 3	53·89	2	2												
" 4	52·34	2	2												
" 25	53·69	1	2												
Oct. 21	51·28	1	2												
" 26	52·75	1	2												
" 29	48·14	2	2												
" 30	45·45	2	2												
Nov. 20	55·01	1	2												
" 25	54·78	2	2												

Latitude.

In this volume the value of the latitude $33^{\circ} 51' 41.1''$ used in previous volumes has been retained, because the observations and examination of the circle for final determination of the latitude are not yet completed.

The following comparative table of the positions of stars for 1878 will indicate what degree of merit may be given to the Sydney observations. The stars have been arranged in order of N.P.D., and all have been reduced to the same epoch; sixty were selected that had been observed at Washington, Melbourne, the Cape, and Sydney; and the Nautical Almanac position is also given. The agreement between the R. A.'s. as observed at Sydney is satisfactory, but it is quite evident that a correction to the latitude of Sydney has yet to be made: if determined from the Nautical Almanac it would be $-0.790''$; if from the mean of the three other Observatories, $-1.352''$.

Seconds and Decimals of observed and computed positions of sixty Stars observed at Sydney and three other Observatories.
Stars arranged in order of N.P.D.

Star.	N.P.D.	Sydney.	Nautical Almanac.	Washington.	Melbourne.	Cape.	Sydney.	Nautical Almanac.	Washington.	Melbourne.	Cape.
α Aurige	7	40° 54'	40° 71'	40° 81'	40° 10'	40° 70'	41° 41'	42° 42'	40° 58'	43° 24'	41° 88'
α Cygni	9	16° 37'	16° 35'	16° 28'	16° 25'	16° 18'	17° 84'	17° 85'	18° 54'	18° 62'	16° 79'
α Canum Venaticorum	1	19° 21'	19° 10'	19° 26'	19° 05'	18° 99'	21° 37'	20° 48'	21° 24'	21° 45'	19° 93'
α Lyrae	19	48° 43'	48° 46'	48° 35'	48° 37'	48° 39'	44° 18'	44° 65'	46° 05'	45° 11'	45° 54'
α Aurige	1	2° 99'	2° 96'	2° 90'	2° 88'	2° 88'	45° 06'	44° 71'	43° 48'	45° 07'	43° 01'
α^2 Gemini	50	48° 91'	48° 87'	49° 01'	48° 88'	48° 84'	45° 27'	44° 70'	43° 10'	44° 66'	43° 84'
ζ Herculis	10	41° 38'	41° 39'	41° 26'	41° 25'	41° 26'	30° 89'	30° 05'	31° 38'	30° 68'	30° 57'
β Tauri	29	34° 89'	34° 87'	34° 82'	34° 83'	34° 83'	53° 16'	51° 98'	50° 41'	51° 49'	50° 49'
α Andromedae	34	4° 94'	4° 99'	4° 90'	4° 95'	4° 89'	59° 94'	59° 93'	58° 77'	59° 90'	59° 36'
β Gemini	40	50° 94'	50° 92'	51° 03'	50° 94'	50° 88'	52° 86'	50° 98'	50° 28'	51° 33'	50° 42'
ϵ Leonis	39	55° 41'	55° 46'	55° 50'	55° 44'	50° 48'	54° 03'	54° 22'	53° 12'	53° 61'	53° 04'
γ Tauri	16	18° 97'	14° 02'	13° 96'	13° 98'	13° 97'	26° 54'	26° 54'	24° 18'	25° 03'	23° 53'
μ Geminorum	25	34° 81'	34° 80'	34° 83'	34° 80'	34° 80'	33° 45'	33° 45'	31° 35'	32° 93'	32° 44'
δ Geminorum	46	60° 16'	60° 20'	60° 23'	60° 16'	60° 18'	42° 11'	41° 65'	40° 39'	41° 15'	40° 53'
γ Cancri	8	89° 04'	89° 09'	89° 13'	89° 12'	88° 87'	45° 71'	45° 20'	43° 24'	44° 21'	41° 82'
β Arietis	47	64° 02'	64° 06'	64° 41'	64° 06'	64° 33'	22° 39'	21° 11'	20° 50'	20° 87'	20° 24'
δ Arietis	44	89° 26'	89° 26'	89° 25'	89° 23'	89° 23'	10° 83'	9° 70'	9° 12'	8° 93'	8° 25'
γ Bootis	59	62° 56'	62° 57'	62° 56'	62° 47'	62° 47'	24° 20'	24° 20'	24° 18'	22° 92'	24° 06'
ϵ Tauri	5	29° 56'	29° 58'	29° 59'	29° 56'	29° 56'	32° 03'	30° 86'	29° 73'	29° 88'	29° 05'
β Cancer	46	10° 28'	10° 18'	10° 39'	10° 31'	10° 13'	43° 61'	43° 19'	40° 20'	40° 48'	42° 00'
γ Geminorum	28	39° 86'	39° 90'	39° 84'	39° 88'	39° 80'	55° 53'	54° 26'	53° 34'	52° 71'	53° 36'
β Leonis	34	50° 16'	50° 14'	50° 21'	50° 11'	50° 09'	48° 27'	46° 73'	43° 95'	45° 04'	45° 18'
ν Orionis	13	36° 35'	36° 38'	36° 43'	36° 39'	36° 35'	9° 50'	7° 50'	9° 18'	6° 20'	6° 32'
γ Persei	29	67° 20'	67° 26'	67° 24'	67° 23'	67° 28'	42° 28'	41° 91'	41° 26'	40° 88'	41° 51'
α Leonis	26	52° 37'	52° 40'	52° 48'	52° 41'	52° 41'	15° 86'	14° 13'	13° 20'	14° 10'	13° 49'
ι Leonis	48	50° 60'	50° 57'	50° 51'	50° 61'	50° 58'	35° 60'	35° 23'	34° 66'	34° 63'	34° 42'
κ Cancer	50	8° 30'	8° 30'	8° 31'	8° 33'	8° 33'	31° 59'	31° 27'	30° 93'	28° 02'	30° 04'
ρ Leonis	3	23° 14'	23° 21'	23° 25'	23° 19'	23° 28'	60° 48'	59° 54'	68° 50'	68° 26'	60° 64'
\star Leonis	22	45° 93'	46° 01'	45° 94'	46° 01'	45° 94'	18° 00'	16° 95'	16° 49'	15° 84'	14° 79'
ζ^2 Oeti	5	40° 37'	40° 39'	40° 37'	40° 33'	40° 37'	16° 78'	16° 45'	15° 34'	15° 84'	15° 35'
ϵ Piscium	46	36° 62'	36° 79'	36° 75'	36° 74'	36° 77'	2° 10'	2° 38'	1° 54'	1° 99'	1° 68'

Seconds and Decimals—*continued.*

Star.	N.P.D.	Sydney.	Nautical Almanac.	Washington.	Melbourne.	Cape.	Sydney.	Nautical Almanac.	Washington.	Melbourne.	Cape.
ε Hydre	°	'	8	18-90	18-87	8	18-90	18-83	8	18-93	8
α Canis Minoris	84..27	54-82	54-93	55-07	54-91	4-93	54-91	50-97	50-94	50-94	4-94
γ Piscium	85..7	4-99	4-91	4-91	4-96	54-15	54-13	54-03	24-84	49-20	48-41
α Oeti	86..28	54-17	54-13	54-15	54-13	20-73	20-73	20-77	38-28	23-31	23-98
δ Aquilæ	87..7	20-85	58-69	58-76	58-78	39-81	39-82	39-83	47-75	37-38	37-05
γ ² Ceti	87..16	58-69	58-76	58-78	58-77	42-08	42-14	42-11	21-06	45-12	46-10
η Virginis	89..59	39-87	39-81	39-82	39-83	42-14	42-11	42-11	19-38	19-50	19-40
v Leonis	90..9	42-14	42-08	42-14	42-14	2-86	2-86	2-86	1-50	1-00	1-28
δ Orionis	90..23	46-40	46-45	46-48	46-47	57-12	57-12	57-15	29-57	28-30	28-05
θ Ophiuchi	93..23	57-19	67-11	67-23	67-23	48-73	48-73	48-73	43-14	42-16	43-34
12 Ceti	94..37	48-84	48-70	48-73	48-73	38-01	38-01	38-03	55-46	54-70	53-50
θ Virginis	94..54	38-06	38-06	38-01	38-01	54-66	54-62	54-61	14-19	14-70	13-88
ε Eridani	97..9	54-64	54-56	54-62	54-60	27-38	27-38	27-38	25-76	26-12	24-68
α Hydre	98..8	35-53	35-48	35-52	35-52	35-48	35-48	35-49	60-51	60-95	60-07
α Virginis	100..32	45-98	45-97	46-00	46-00	45-96	45-96	45-96	28-05	28-34	28-53
α Capricorni	102..53	17-08	17-08	17-08	17-08	17-03	17-04	17-04	19-67	18-10	17-45
γ ¹ Eridani	103..51	20-27	20-19	20-24	20-23	20-24	20-24	20-24	25-78	25-26	24-06
γ Crateris	104..8	14-52	14-51	14-55	14-51	14-49	14-49	14-49	7-12	28-85	23-96
γ Cæn. Majoris	105..27	14-38	14-37	14-42	14-38	14-41	14-41	14-41	16-37	16-32	14-75
α Cæn. Majoris	106..32	46-15	46-29	46-47	46-21	46-29	46-29	46-29	63-21	60-25	59-45
ρ Capricorni	108..18	54-08	58-92	61-95	63-95	27-88	27-88	27-88	56-14	56-32	56-40
β Ceti	108..39	27-88	27-81	27-87	27-85	51-14	51-10	51-11	24-71	24-07	23-78
ε Corvi	111..57	51-02	51-14	51-10	51-12	29-48	29-48	29-48	28-17	28-62	27-79
ε Leporis	112..82	17-81	17-75	17-80	17-82	17-75	17-75	17-75	11-30	9-72	9-97
β Corvi	112..44	58-80	58-70	58-67	58-75	68-69	68-69	68-69	18-95	18-60	18-35
θ Ophiuchi	114..53	31-07	31-08	31-01	31-01	30-32	30-32	30-32	32-17	33-04	32-47
δ Sculporis	118..48	34-33	34-10	34-22	34-10	34-11	34-11	34-11	7-12	7-69	7-14
ε Cæn. Majoris	118..48	49-92	49-88	49-91	49-89	49-82	49-82	49-82	26-23	25-84	25-56
α Pis. Aust.	120..15	54-35	64-28	54-16	54-33	64-30	64-30	64-30	6-23	6-42	6-18
Means .....	.....	37-359	37-339	37-373	37-329	37-246	32-104	31-314	30-772	30-801	30-694
Sydney — each .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
		+ ·020	- ·014	+ ·030	+ ·113	.....	+ ·790	+ 1-332	+ 1-303	+ 1-420	

The star B.A.C. 1,471, on page 47, has, by the B.A.C. catalogue, the position $117^{\circ} 47' 47\cdot60$ for 1878; the same star has however been observed at Washington, and the position for 1878 thence derived is $117^{\circ} 48' 16\cdot14$, which agrees closely with the Sydney result.

On page 53 the B.A.C. position for 2,843 is $121^{\circ} 15' 49\cdot16$. The position from Washington observations is $121^{\circ} 16' 17\cdot46$, which agrees closely with the Sydney position.

On page 70 the position of B.A.C. 7,702 is $124^{\circ} 36' 42\cdot54$, with precession and proper motion. This position however depends upon Brisbane, who only had one observation for N.P.D. and none for R.A. On examining this place with the equatorial, I find there are two stars, and it is, I think, evident that Brisbane took the second one, which is $91''$ greater in R.A., and $72''$ further north.

Brisbane's position for 7,132, for 1878, in

N.P.D. is... $124^{\circ} 36' 56\cdot97$

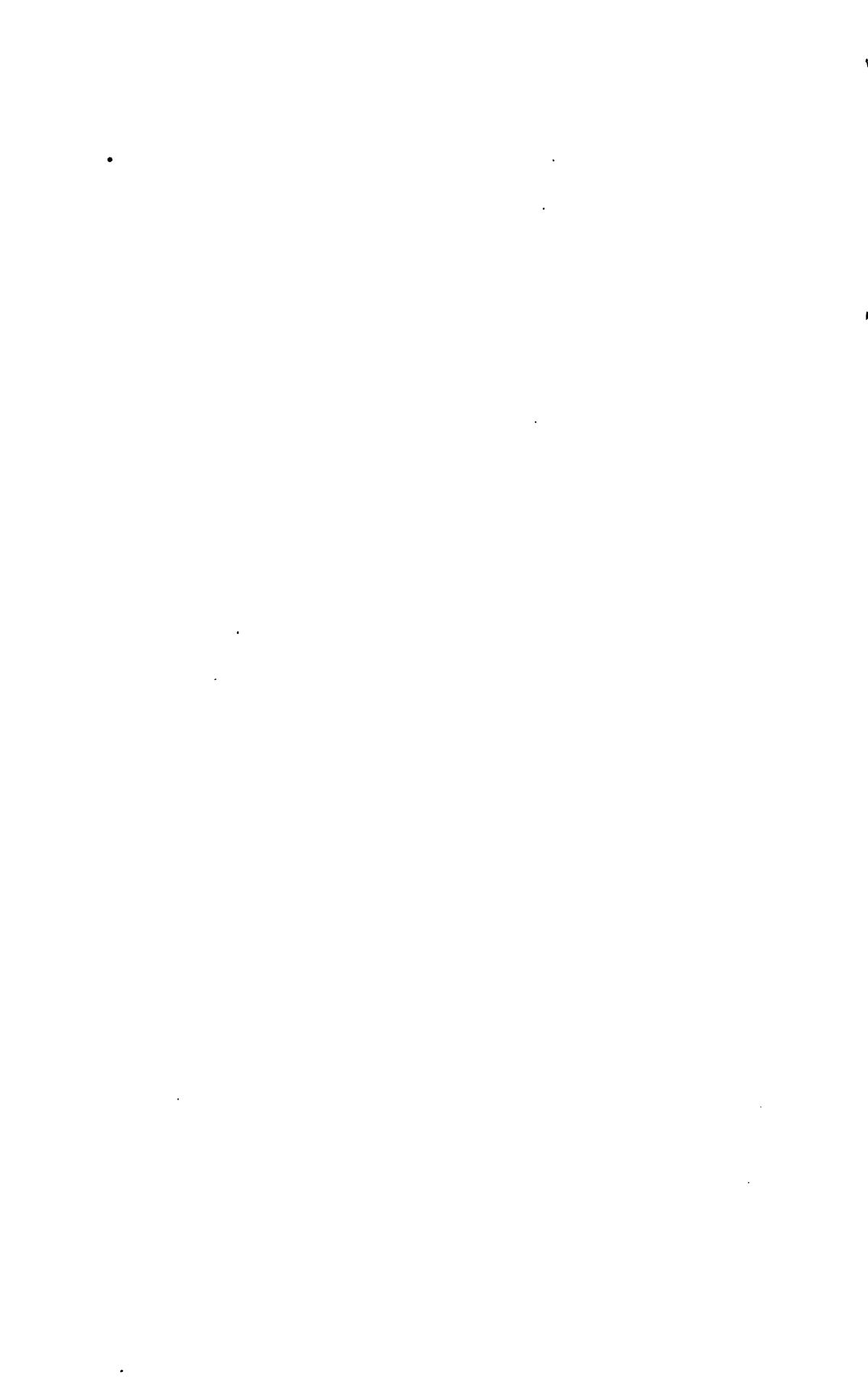
Washington's observations for 9693, brought

up to 1878 $124^{\circ} 38' 14\cdot61$

10,257, Taylor, which was rejected by B.A.C.,

although he had seven observations ... $124^{\circ} 38' 13\cdot21$

Sydney $124^{\circ} 38' 15\cdot91$



SYDNEY OBSERVATORY.

MEAN RIGHT ASCENSIONS

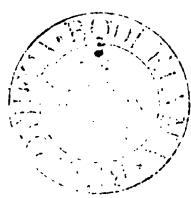
AND

NORTH POLAR DISTANCES,

OBSERVED IN 1877 AND 1878,

AND

REDUCED TO JANUARY 1 OF EACH YEAR.



SYDNEY OBSERVATORY.

MEAN RIGHT ASCENSIONS AND NORTH POLAR DISTANCES, OBSERVED IN 1877 AND REDUCED TO JANUARY 1, 1877.

STAR.	DATE.	R.A. AT OBSERVATION.	CORRECTION TO JAN. 1.	MEAN R.A. JAN. 1.	TABULAR R.A.	N.P.D. AT OBSERVATIONS.	CORRECTION TO JAN. 1.	MEAN N.P.D. JAN. 1.	TABULAR N.P.D.	MAGNITUDE.
<i>α</i> Andromedæ.	Nov. 1	<i>h. m. s.</i>	<i>s.</i>	<i>s.</i>	<i>s.</i>	° ' "	"	"	"	2
	18	0 2 5° 68	3° 77	1° 89		61 34 49° 74	31° 49	81° 23		
	14		5° 48	3° 76	1° 72		49° 90	32° 61	82° 53	
	15		5° 71	3° 75	1° 96		48° 00	32° 68	80° 68	
	23		5° 59	3° 67	1° 92		46° 96	32° 75	79° 71	
							46° 45	33° 19	79° 64	
					1° 87	1° 90			80° 76	79° 43
<i>β</i> Hydri	April 25					77 56 28° 92	7° 65	36° 57	S.P.	3
	Oct. 24	0 19 27° 08	10° 47	16° 61						
	Nov. 5	26° 34	9° 80	16° 54						
	13	25° 76	9° 28	16° 52						
	23	24° 99	8° 41	16° 58						
				16° 56	15° 81			36° 57	52° 68	
12 Ceti	Oct. 13	0 23 49° 88	4° 15	45° 73		94 37 47° 98	25° 14	73° 12		6
	Nov. 23	49° 69	4° 00	45° 69		48° 92	24° 33	73° 25		
				45° 71	45° 64				73° 19	
									74° 00	
<i>β</i> Ceti	Nov. 23					108 39 25° 38	20° 56	45° 94		2
	30	0 37 29° 13	4° 10	25° 03		25° 42	19° 72	45° 14		
				25° 03	24° 80					
								45° 54	43° 87	
<i>ε</i> Piscum	Nov. 20	0 56 37° 75	4° 12	33° 63		82 45 51° 91	28° 23	80° 14		4
	23	37° 75	4° 11	33° 64		53° 43	28° 15	81° 58		
	30	37° 70	4° 06	33° 64		54° 78	27° 90	82° 68		
	Dec. 3	37° 65	4° 05	33° 60		52° 32	27° 75	80° 07		
	7					52° 77	27° 57	80° 34		
									80° 96	81° 83
<i>θ</i> Ceti	Nov. 20	1 17 56° 71	4° 23	52° 48		98 48 43° 21	24° 49	67° 70		8
	23					48° 35	24° 15	67° 60		
	Dec. 3	56° 77	4° 17	52° 60		46° 40	23° 12	69° 52		
	5	56° 62	4° 15	52° 47		44° 48	22° 90	67° 38		
	6	56° 68	4° 15	52° 53		45° 12	22° 80	67° 98		
	7	56° 70	4° 14	52° 56		44° 91	22° 70	67° 61		
	12	56° 66	4° 10	52° 56		46° 12	22° 20	68° 34		
					52° 53	52° 46			68° 00	66° 80

STAR.	DATE.	R.A. at Observation.		Correction to Jan. 1.	Mean R.A. Jan. 1.	Tabular R.A.	N.P.D. at Observations.		Correction to Jan. 1.	Mean N.P.D. Jan. 1.	Tabular N.P.D.	Magnitude.
η Piscium	Nov. 20	<i>h.</i>	<i>m.</i>	<i>s.</i>	<i>s.</i>	<i>s.</i>	°	'	"	"	"	4
	30	1	24	58.36	4.29	54.07	75	16	51.84	29.65	81.49	
	Dec. 3			58.24	4.25	53.99			53.21	29.65	82.86	
	5			58.34	4.24	54.10			51.97	25.62	81.59	
	6			58.15	4.23	53.92			51.99	29.59	81.58	
	7			58.29	4.21	54.08			50.24	29.56	79.80	
	12			58.36	4.22	54.14			51.24	29.55	80.79	
				58.34	4.19	54.15			51.48	29.43	80.91	
						54.06	54.15				81.29	79.96
ν Piscium	Nov. 20	1	35	6.19	4.29	1.90	85	7	40.93	27.53	68.46	5
	30			6.06	4.27	1.79						
	Dec. 3			6.16	4.26	1.90			42.54	26.87	69.41	
	5			5.96	4.24	1.72			42.42	26.75	69.17	
	6			6.03	4.24	1.79			40.69	26.69	67.38	
	7			6.14	4.24	1.90			40.84	26.63	67.47	
	11			5.98	4.21	1.77			40.28	26.38	66.66	
	17			5.95	4.17	1.78			42.57	26.02	68.59	
						1.82	1.80				68.16	68.57
β Arietis	Nov. 30	1	47	55.13	4.45	50.68	69	47	10.95	30.35	41.30	3
	Dec. 3			55.24	4.44	50.80						
	5			55.14	4.43	50.71						
	6			55.15	4.43	50.72				9.26	30.36	89.62
	7			55.08	4.42	50.66				8.76	30.37	39.13
	11			55.12	4.40	50.72				10.05	30.38	40.43
	12			55.21	4.39	50.82				9.63	30.37	40.00
	17			55.10	4.37	50.73				9.98	30.35	40.28
	26			55.04	4.29	50.75				7.61	30.20	37.81
						50.73	50.75				39.80	38.87
α Arietis	Nov. 28	2	0	18.82	4.57	14.25	67	6	43.60	30.39	73.99	2
	Dec. 3			19.02	4.56	14.46				43.09	30.45	73.54
	5			18.87	4.55	14.32				41.49	30.48	71.97
	6			18.94	4.55	14.39				42.98	30.50	73.48
	7			19.01	4.55	14.46				40.80	30.57	71.37
	11			18.94	4.53	14.41				42.22	30.60	72.82
	12			18.90	4.52	14.38				41.92	30.63	72.55
	17			18.93	4.50	14.43				40.49	30.58	71.07
	26			18.91	4.42	14.49						72.60	72.71
						14.40	14.49					
67. Ceti.....	Dec. 6	2	10	55.27	4.34	50.98	96	59	1.04	22.98	24.02	6
	7			55.24	4.34	50.90				1.10	22.88	23.98
	11			55.30	4.32	50.98				1.62	22.43	24.05
	12			55.21	4.32	50.89				3.78	22.31	26.09
	17			55.27	4.28	50.99				1.95	21.78	23.73
	19			55.32	4.27	51.05				1.79	21.55	23.34
	26			55.15	4.22	50.98				1.90	20.87	22.77
						50.95	50.87				24.00	24.07

Observed at the Sydney Observatory, 1877.

3

STAR.	DATA.	R. A. at Observation.	Correction to Jan. 1.	Mean R. A. Jan. 1.	Tabular R. A.	N. P. D. at Observations.	Correction to Jan. 1.	Mean N. P. D. Jan. 1.	Tabular N. P. D.	Magnitude.
B.A.C. 765 ...	Dec. 11 12 17 19 26 31	h. m. s. 2 22 53.78 53.78 53.62 53.67 53.51	s. 4.28 4.28 4.23 4.21 4.11	s. 49.50 49.50 49.39 49.46 49.40	s. 49.45 49.37	° ' "	"	"	"	6
						124 21 30.21	15.53	45.74		
						28.36	14.38	42.74		
						30.54	14.02	44.56		
						32.08	12.89	44.97		
						32.70	12.06	44.76	44.55	
γ^2 Ceti	Dec. 11 17 19	h. m. s. 2 36 60.18 60.11 59.99	s. 4.50 4.48 4.45	s. 55.68 55.64 55.54	s. 55.62 55.66	87 16 37.59	24.09	61.68		3
						37.88	23.62	61.50		
						37.90	23.53	60.83		
						36.87	23.34	60.21		
								61.06	62.24	
α Ceti	Dec. 19 21 27 28 31	h. m. s. 2 55 55.62 55.63 55.47 55.65 55.54	s. 4.57 4.55 4.54 4.53 4.51	s. 51.05 51.08 50.93 51.12 51.03	s. 51.04 51.01	86 23 14.46	22.80	37.26		2 $\frac{1}{2}$
						15.86	22.69	38.55		
						14.83	22.20	37.03		
						15.67	21.84	37.51		
								37.59	38.80	
δ Arietis	Dec. 19 21 27 28	h. m. s. 3 4 40.63 40.70 40.65 40.75	s. 4.90 4.87 4.87 4.85	s. 35.73 35.83 35.78 35.90	s. 35.81 35.84	70 43 56.82	26.00	82.82		4
						59.37	26.01	85.88		
						57.83	25.93	83.76		
								83.99	83.59	
ϵ Eridani	Dec. 19 27	h. m. s. 3 27 12.44 12.59	s. 4.50 4.48	s. 7.94 8.11	s. 8.03 8.14	99 52 16.34	18.14	34.48		3
						16.82	17.03	33.85		
								34.17	33.99	
α^1 Eridani.....	Dec. 27	4 5 56.49	4.64	51.85	51.64	97 9 23.04	15.33	38.37	35.41	4 $\frac{1}{2}$
β Orionis	Mar. 20	5 8 38.29	0.70	37.59	37.59	98 20 46.77	0.39	46.38	43.86	1
β Tauri	Feb. 9 Mar. 20	h. m. s. 5 18 32.68	s. 1.59	s. 31.09	s. 31.08	90 23 31.43	11.85	43.28		2
								43.28	55.33	

Mean Right Ascensions and North Polar Distances of Stars

STAR.	DATE.	R. A. AT OBSERVATION.	CORRECTION TO JAN. 1.	MEAN R. A. JAN. 1.	TABULAR R. A.	N. P. D. AT OBSERVATIONS.	CORRECTION TO JAN. 1.	MEAN N. P. D. JAN. 1.	TABULAR N. P. D.	MAGNITUDE.
δ Orionis	Feb. 9 12 Mar. 20	h. m. s. 5 25 44.81 44.76 44.28	s. 1.43 1.39 0.83	s. 43.38 48.87 43.40	s. 43.38 43.39	o ' " " " "	" " " "	" " " "	" " " "	2
α Leporis	Feb. 8 12	5 27 19.06 19.71	1.41 1.35	18.39 18.36						3½
				18.38	18.33					
ϵ Orionis	Feb. 9 12 20	5 29 59.71 59.73 59.07	1.45 1.39 0.84	58.26 58.34 58.23		91 16 57.02	1.40	58.42 58.42	56.09	2
				58.28	58.29					
α Columbae ...	Feb. 16 Mar. 6 20	5 35 13.12 12.50	1.34 0.93	11.78 11.84		124 8 32.79 34.91	7.26 7.39	25.71 27.52	25.52	2
				11.81	11.83					
α Orionis	Feb. 9 Mar. 20 29 Apl. 6	5 48 32.30 31.69 31.63 31.63	1.60 1.01 0.86 0.75	30.70 30.68 30.77 30.88		82 37 2.76 2.08 0.34	3.83 3.84 3.03	6.59 5.92 4.27	4.24	1
				30.76	30.77					
γ Orionis	Feb. 16 20 25 Mar. 29	6 0 34.62 34.69 34.47 34.03	1.62 1.58 1.51 0.98	33.00 33.11 32.96 33.05		75 13 1.06	6.27	7.33	7.43	4½
				33.03	32.95					
μ Geminorum..	Feb. 16. 19 20 25 Mar. 20	6 15 33.03 33.06 33.01 32.77 32.54	1.80 1.76 1.75 1.63 1.31	31.23 31.30 31.26 31.14 31.23		67 25 24.50 21.45	8.15 8.20	32.65 29.65	31.78	3
				31.23	31.17					
α Argus (Canopus)	Feb. 16 19 26 Apl. 6	6 21 14.87 14.70 13.04	1.62 1.52 0.05	13.25 13.18 13.09		142 37 51.16 54.71 54.46	8.14 9.27 11.07	43.02 42.99 43.39	44.98	1
				13.17	13.40					

Observed at the Sydney Observatory, 1877.

5

STAR.	DATE.	R.A. at Observation.	Correction to Jan. 1.	Mean R.A. Jan. 1.	Tabular R.A.	N.P.D. at Observations.	Correction to Jan. 1.	Mean N.P.D. Jan. 1.	Tabular N.P.D.	Magnitude.
γ Geminorum..	Feb. 16	h. m. s. 6 30 38.31	s. 1.80	36.51	s.	° ' " 73 29 47.93	" 5.66	53.59	"	2½
	19	38.24	1.76	36.48		47.84	5.66	53.50		
	20	38.14	1.76	36.38		44.60	5.66	50.26		
	25	38.01	1.69	36.32		50.72	5.67	53.94		
	26	38.20	1.64	36.56		49.65	5.67	55.32		
	Mar. 6	37.92	1.57	36.35		50.03	5.71	55.74		
	20	37.64	1.34	36.30		48.84	5.75	54.59		
	29					47.27	5.79	53.06		
	Apl. 6			36.41	36.33			53.50	51.55	
α Canis Major..	Feb. 16	6 39 45.16	1.59	43.57		106 32 61.94	2.98	58.96		1
	19	45.18	1.55	43.63		64.06	3.12	60.94		
	20	45.00	1.54	43.46		59.34	3.69	55.65		
	25	45.01	1.47	43.54		66.99	3.76	60.78		
	26	44.93	1.45	43.48		64.38	4.47	59.91		
	Mar. 6	44.90	1.33	43.57		66.80	5.27	61.53		
	29					64.98	5.15	59.83		
	Apl. 6	44.50	0.76	43.74				59.37	55.55	
				43.57	43.64					
ϵ Canis Major..	Feb. 10	6 53 49.07	1.70	47.37						2½
	15	49.02	1.62	47.40						
	19	49.11	1.57	47.54						
	26	48.79	1.46	47.33		118 48 34.82	6.86	26.81		
	Mar. 2	48.66	1.39	47.27		30.24	6.95	23.29		
	6					30.79	7.42	23.37		
	9	48.71	1.27	47.44		30.00	7.78	22.22		
	13	48.48	1.17	47.31		30.10	8.09	22.01		
	14	48.51	1.15	47.36		31.45	8.17	23.28		
	Apl. 6					35.25	8.82	26.43		
				47.38	47.52			23.51	21.54	
γ Canis Major..	Feb. 20	6 58 13.38	1.61	11.77		105 27 14.85	3.21	11.64		4
	26	13.19	1.54	11.65		16.81	3.82	13.01		
	Mar. 2	13.08	1.47	11.61		15.53	4.29	11.24		
	9	13.02	1.37	11.65		17.15	4.87	12.28		
	13	13.10	1.30	11.80		16.43	5.13	11.30		
	14	13.01	1.29	11.72		17.11	5.19	11.92		
				11.70	11.65			12.42	10.27	
δ Geminorum	Feb. 10	7 12 48.68	2.13	46.55		67 47 30.87	5.41	36.28		3
	Mar. 2	48.64	1.95	46.69		29.60	5.56	35.16		
	7	48.37	1.88	46.49		29.72	5.59	35.31		
	8	48.55	1.87	46.68		29.19	5.61	34.80		
	9	48.54	1.87	46.67		28.45	5.72	34.17		
	13	48.46	1.80	46.66		30.70	5.75	36.45		
	14	48.49	1.78	46.71				35.36	35.37	
				46.64	46.61					

6 *Mean Right Ascensions and North Polar Distances of Stars*

STAR.	DATE.	R.A. AT OBSERVATION.	CORRECTION TO JAN. 1.	MEAN R.A. JAN. 1.	TABULAR R.A.	N.P.D. AT OBSERVATION.	CORRECTION TO JAN. 1.	MEAN N.P.D. JAN. 1.	TABULAR N.P.D.	MAGNITUDE.
α^2 Geminor (Castor.)	Feb. 10	7 26 47.63	2.41	45.22						1½
	15	47.57	2.40	45.17						
	26	47.49	2.29	45.20						
	Mar. 2	47.49	2.24	45.25		57 50 31.25	7.43	38.68		
	7	47.24	2.17	45.07		29.04	7.78	36.82		
	8	47.22	2.15	45.07		29.77	7.85	37.62		
	9	47.36	2.14	45.22		29.34	7.91	37.25		
	13	47.20	2.07	45.13		29.31	8.15	37.46		
	14	47.18	2.05	45.13		28.69	8.22	36.91		
				45.16	45.03				37.46	37.20
α Can. Min. (Procyon.)	Feb. 10	7 32 53.69	1.95	51.74						1
	15	53.54	1.94	51.60						
	26	53.48	1.84	51.64						
	Mar. 2	53.41	1.80	51.61		84 27 46.01	0.24	45.77		
	5					42.74	0.32	42.42		
	7	53.48	1.75	51.73		43.16	0.39	42.77		
	8	53.35	1.74	51.61		42.24	0.41	41.83		
	9	53.40	1.73	51.67		43.47	0.43	43.04		
	13	53.26	1.66	51.60		43.92	0.52	43.42		
	14	53.40	1.64	51.76		42.52	0.53	41.99		
				51.66	51.79				43.03	41.95
β Geminor (Pollux.)	Feb. 10	7 37 49.72	2.36	47.36						2
	15	49.65	2.34	47.31						
	Mar. 2	49.68	2.21	47.47						
	5	49.40	2.17	47.23		61 40 36.55	5.81	42.86		
	7	49.36	2.15	47.21		36.57	5.92	42.49		
	8	49.40	2.13	47.27						
	9	49.54	2.12	47.42		37.34	6.03	43.87		
	13	49.54	2.10	47.44		37.64	6.26	43.90		
	14	49.42	2.08	47.39		37.32	6.33	43.65		
				47.34	47.24				43.15	42.62
6 Cancri.....	Feb. 10	7 55 60.12	2.41	57.71						5
	15	60.17	2.41	57.76						
	Mar. 5	59.95	2.28	57.67		61 51 40.00	4.54	44.54		
	6	59.98	2.27	57.71						
	7					41.10	4.65	45.75		
	8	59.99	2.23	57.76		41.81	4.72	46.53		
	22	59.80	2.02	57.78		39.48	5.55	45.03		
				57.73	57.66				45.46	45.55
B.A.C. 2717 or M.C. 397.	Mar. 3	8 0 20.15	1.60	18.55						6
	7									
	8									
				18.55	19.27				33.45	30.81

STAR.	DATE.	R.A. at Observation.	Correction to Jan. 1.	Mean R.A. Jan. 1.	Tabular R.A.	N.P.D. at Observations.	Correction to Jan. 1.	Mean N.P.D. Jan. 1.	Tabular N.P.D.	Magnitude.	
B.A.C., 2719...	Feb. 25 26 27 Mar. 3 5 6 7 8 9 13 14 22	h. m. s. 8 0 61.60 61.50 61.49 61.57 61.59	s. 1.69 1.68 1.57 1.51 1.43	s. 59.91 59.82 59.92 60.06 60.16 59.97	s. 123 13 13.71 14.72 13.04 14.79 12.81 15.01 16.66 15.50 15.68 17.46 16.89 18.17	° ' " " "	7.27 7.48 7.65 8.47 8.85 9.04 9.20 9.38 9.53 10.17 10.32 11.34	6.44 7.24 5.89 6.32 3.96 5.97 7.46 6.12 6.15 7.29 6.57 6.83	6.30	9.34	6
η Cancri	Feb. 27 Mar. 3 22	8 25 37.88 37.61	2.26 2.05	35.62 35.56 35.59	35.61	69 8 33.32 32.52 33.59	0.39 0.54 1.38	33.71 33.06 34.97	33.91	33.23	6
ε Hydræ	Feb. 27 Mar. 22 28 April 4	8 40 17.85 17.64	1.80 1.70	16.05 15.94 16.00	15.68	83 7 57.14 58.72 59.87	3.16 3.58 3.53	53.98 55.14 56.34	55.15	52.51	4
κ Cancri.....	Mar. 22 28 April 3 4 10 11 13 May 17	9 1 7.07 6.90 6.26	2.03 1.81 1.32	5.04 5.09 4.94 5.02	5.04 5.04	78 50 23.63 24.35 23.31 23.87 20.79 23.55 19.40	3.61 3.47 3.31 3.26 3.10 3.05 2.99	20.02 20.88 20.00 20.61 17.69 20.50 16.41	19.44	17.02	5
83 Cancri	April 3 4 12 13 May 17	9 12 9.04 8.76 8.46	2.07 1.95 1.49	6.97 6.81 6.97 6.92	6.97 6.82	71 46 32.39 33.20 33.18 32.37 33.15	1.79 1.76 1.33 1.27 0.24	30.60 31.44 31.85 31.10 33.39	31.68	28.12	6
ε Argus	Mar. 27	9 13 49.15	1.38	47.77	47.76						2

STAR.	DATE.	R.A. at Observation.	Correction to Jan. 1.	Mean R.A. Jan. 1.	Tabular R.A.	N.P.D. at Observations.	Correction to Jan. 1.	Mean N.P.D. Jan. 1.	Tabular N.P.D.	Magnitude.
α Hydræ	Mar. 27	h. m. s. 9 21 34.54	s. 1.82	s. 32°72	s.	o ' " 98 7 47.30	" 9.76	37.54	"	2
	April 3	34.37	1.74	32°63			47.18	9.78	37.40	
	4						46.91	9.95	36.96	
	9						47.76	9.96	37.80	
	10	34.08	1.65	32°43			46.67	10.01	36.66	
	12						46.93	10.03	36.90	
	13	34.05	1.62	32°43			48.28	12.41	35.87	
	19	34.13	1.53	32°60			46.43	9.87	37.06	
	May 17	33.66	1.18	32.48					37.02	35.53
				32°55	32°53					
ϵ Leonis.....	Mar. 27	9 38 54.57	2.40	52°17		65 39 40.33	2.41	37.92		3
	April 3	54.57	2.34	52°23		41.65	1.80	39.85		
	4					41.68	1.70	39.93		
	9	54.29	2.25	52°03		39.20	1.32	37.88		
	12	54.40	2.22	52°18		39.52	1.08	38.44		
	13	54.15	2.20	51°95		39.36	1.00	38.36		
	23	54.20	2.07	52°13		37.77	0.25	37.52		
	May 17	53.90	1.74	52°16		36.92	1.05	37.97		
				52°12	52°05				38.48	37.82
π Leonis	April 3	9 53 44.71	2.09	42°62		81 22 10.67	7.12	3.55		5
	9	44.75	2.02	42°73		9.49	6.94	2.55		
	11					10.52	6.87	3.65		
	12					7.13	6.85	0.28		
	13	44.62	1.97	42°65		7.71	6.81	0.90		
	23	44.64	1.89	42°75		8.02	6.40	1.62		
	May 17	44.34	1.60	42°74		6.49	5.30	1.19		
				42°70	42°75				1.96	59.83
α Leonis	Mar. 10	10 1 51.46	2.33	49°13		77 25 66.31	7.32	58.99		1
	April 9	51.28	2.13	49°15		65.06	6.33	58.73		
	11					67.26	6.22	61.04		
	12					66.92	6.16	60.76		
	17	51.28	2.04	49°24		65.64	5.91	59.73		
	19	51.17	2.03	49°14		65.83	5.81	60.02		
	23	51.13	1.99	49°14		64.03	5.59	58.44		
	27					65.48	5.38	60.10		
	May 17	50.86	1.69	49°17		63.63	4.33	59.30		
				49°16	49°20				59.68	56.69
γ^1 Leonis	Mar. 10	10 13 13.74	2.51	11°23		69 32 20.93	7.04	13.89		2
	April 9	13.78	2.32	11°46		20.71	4.84	15.87		
	17	13.64	2.25	11°39		21.27	4.20	17.07		
	23	13.50	2.17	11°33		20.03	3.72	16.31		
	27					19.83	3.42	16.41		
				11.35	11.33				15.91	13.51

STAR.	DATE.	H.A. at Observation.	Correction Jan. 1.	Mean R.A. Jan. 1.	Tabular R.A.	N.P.D. at Observations.	Correction to Jan. 1.	Mean N.P.D. Jan. 1.	Tabular N.P.D.	Magnitude.
		h. m. s.	s.	s.	s.	° ' "	"	"	"	
β Leonis	Mar. 10	10 26 22:36	2:33	20:03		80 3 50:56	9:18	41:38		4
	April 17	22:27	2:12	20:15		50:39	8:15	42:24		
	18	22:11	2:11	20:00		47:88	8:09	39:79		
	23	22:10	2:06	20:04		50:61	9:47	41:14		
	27	22:19	2:01	20:18		50:22	9:43	40:79		
	May 8	22:08	1:89	20:19		46:88	7:03	38:85		
				20:10	20:04			40:70	41:11	
ι Leonis	April 18	10 42 49:74	2:20	47:54		78 48 25:42	8:69	16:73		5
	27	49:54	2:13	47:41		25:17	8:16	17:01		
	May 4	49:41	2:04	47:37		24:76	7:75	17:01		
	7	49:34	2:01	47:33		23:53	7:54	15:99		
	8	49:34	2:00	47:34		24:61	7:48	17:13		
	14	49:22	1:94	47:28		22:81	7:14	15:67		
				47:38	47:42			16:59	16:28	
χ Leonis	April 16	10 58 42:62	2:23	40:39		81 59 72:15	10:55	61:60		5
	17	42:56	2:21	40:35		71:76	10:50	61:26		
	27	42:55	2:14	40:41		70:61	10:00	60:61		
	May 4	42:42	2:08	40:34		71:03	9:60	61:43		
	7	42:34	2:03	40:31		69:11	9:42	59:69		
	14	42:31	1:95	40:36		68:60	9:03	59:57		
				40:36	40:27			60:69	59:08	
δ Leonis	April 16	11 7 36:41	2:50	33:91		68 48 19:38	7:73	11:65		21
	17	36:37	2:49	33:88		20:82	7:64	13:18		
	18	36:29	2:48	33:81		18:54	7:56	10:98		
	27	36:29	2:40	33:89		18:61	6:52	12:09		
	May 4					18:22	5:94	12:28		
	7	36:31	2:30	34:01		16:18	5:63	10:55		
	8	36:22	2:28	33:94		16:41	5:57	10:84		
	14	36:05	2:22	33:83		14:71	5:04	9:67		
	29	36:05	2:04	34:01		11:91	3:90	8:01		
				33:91	33:93			11:03	10:08	
δ Crateris	April 16					104 6 66:61	15:96	50:65		31
	18	11 13 18:55	2:01	11:54		65:06	16:06	49:00		
	23					67:21	16:22	50:99		
	May 7	13:36	1:88	11:48		65:29	16:73	48:56		
	14					64:12	16:72	47:40		
	29	12:98	1:65	11:33		62:43	16:45	45:98		
				11:45	11:52			48:76	47:67	

10 *Mean Right Ascensions and North Polar Distances of Stars*

STAR.	DATE.	R.A. at Observation.	Correction to Jan. 1.	Mean R.R. Jan. 1.	Tabular R.A.	N.P.D. at Observation.	Correction to Jan. 1.	Mean N.P.D. Jan. 1.	Tabular N.P.P.	Magnitude.
ν Leonis.....	April 16	<i>h. m. s.</i>	<i>s.</i>	<i>s.</i>	<i>s.</i>	<i>o. ' "</i>	<i>"</i>	<i>"</i>	<i>"</i>	<i>4</i>
	25	11 30 41.26	2.18	39.08		90 8 59.98	18.94	46.04		
	May 4	41.21	2.12	39.09		56.27	18.79	42.48		
	14					58.00	18.58	44.47		
	21	40.99	1.99	39.00		55.95	18.16	42.79		
	29	40.98	1.91	39.07		59.64	18.92	46.72		
	June 22	40.73	1.70	39.08		53.77	12.45	41.32		
						54.50	11.08	43.42		
								43.89	41.64	
β Leonis	April 16	11 42 49.65	2.49	47.16		74 44 39.24	11.40	27.84		<i>2</i>
	25	49.45	2.45	47.00		37.66	10.59	27.07		
	May 4	49.45	2.38	47.07						
	7					37.38	9.44	27.94		
	21	49.41	2.23	47.18						
	29	49.20	2.15	47.05		33.91	7.63	26.28		
	June 22	49.00	1.93	47.07		33.88	6.19	27.69		
						47.09	47.07			
								27.36	25.62	
ϵ Corvi	April 25	12 3 50.19	2.17	48.02		111 56 29.18	18.96	10.22		<i>4</i>
	May 21	49.93	1.98	47.95		30.05	20.35	9.70		
	23	50.10	1.97	48.13		30.28	20.39	9.89		
	29	50.00	1.91	48.09		27.95	20.46	7.49		
	June 22	49.58	1.69	47.89		28.34	19.93	8.41		
						48.04	48.07			
								9.14	8.13	
β Chamaeleontis ..	June 22	12 11 9.22	0.29	9.51						<i>5</i>
	Nov. 5	5.52	3.95	9.47						
	13	6.24	3.18	9.42						
	23	7.48	2.12	9.60						
						9.50	9.35			
η Virginis	May 23	12 12 39.02	2.18	36.84	36.75	89 59 17.34	14.27	3.07	59.28	<i>3</i>
β Corvi	May 18	12 27 57.72	2.16	55.56		112 43 23.74	20.83	2.91		<i>2</i>
	21	57.78	2.14	55.64						
	23	57.78	2.13	55.65		23.40	21.00	2.40		
	25	57.59	2.11	55.48		23.19	21.04	2.15		
	June 4	57.49	2.03	55.46		24.08	21.18	2.85		
	22	57.57	1.87	55.70						
						55.58	55.57			
								2.58	58.97	

STAR.	DATE.	R.A. AT OBSERVATION.	CORRECTION TO JAN. 1.	MEAN R.A. JAN. 1.	TABULAR R.A.	N.P.D. AT OBSERVATIONS.	CORRECTION TO JAN. 1.	MEAN N.P.D. JAN. 1.	TABULAR N.P.D.	MAGNITUDE.
γ Virginis	May 18	h. m. s. 12 35 27.90	s. 2.32	25.58	s.	° ' "	"	"	"	4
(Mean.)	23	27.90	2.29	25.61		90 46 45.47	15.43	30.04		
	25	27.97	2.29	25.68		45.24	15.16	30.08		
	28	27.87	2.25	25.62		43.70	15.07	28.63		
	July 17					42.69	14.90	27.79		
						40.16	12.06	28.10		
				25.62	25.72			28.93	29.65	
M.C. 639	June 22					123 19 65.98	24.57	41.41	41.69	4
α Canum Ven- aticorum.	May 18	12 50 19.44	2.97	16.47		51 1 8.51	5.39	3.12		3
	23	19.27	2.91	16.36		8.05	4.52	3.53		
	25	19.28	2.88	16.40		6.46	4.20	2.26		
	June 4	19.14	2.74	16.40		4.65	2.76	1.89		
	5					4.32	2.63	1.69		
				16.41	16.29			2.50	0.97	
δ Virginis	May 18	13 3 37.31	2.43	34.88		94 53 15.10	17.11	57.99		4
	25	37.29	2.39	34.90		14.15	16.84	57.31		
	28	37.24	2.37	34.87		13.73	16.73	57.00		
	June 4	37.10	2.34	34.76		14.45	16.41	58.04		
	5	36.97	2.33	34.64		14.89	16.36	58.53		
	6	37.26	2.31	34.95		13.33	16.24	57.09		
	13					13.55	15.96	57.59		
	14					12.20	15.90	56.30		
	July 17	36.83	1.98	34.85				57.48	54.86	
				34.84	34.91					
α Virginis	May 25	13 18 45.43	2.45	42.98		100 31 31.11	18.47	12.64		1
(Spica.)	28	45.33	2.43	42.90		28.03	18.41	9.62		
	June 1					25.17	18.38	6.79		
	4	45.23	2.41	42.82		29.42	18.24	11.18		
	5	45.03	2.40	42.85		30.27	18.20	12.07		
	6	45.09	2.38	42.71		28.55	18.12	10.43		
	13					28.71	17.95	10.76		
	14					27.54	17.91	9.63		
	July 17	44.84	2.11	42.73				10.78	7.42	
				42.83	42.82					
ζ Virginis	May 28	13 28 28.16	2.51	25.65		89 58 16.56	15.81	0.75		4
	June 1					17.10	15.60	1.50		
	5	27.94	2.47	25.47		18.80	15.30	3.00		
	6	27.99	2.46	25.53		16.46	15.15	1.31		
	8	27.74	2.46	25.28		15.90	15.09	0.81		
	12					15.03	14.82	0.21		
	13					17.87	14.76	3.11		
	14					15.41	14.69	0.72		
				25.48	25.59			1.43	58.70	

STAR.	DATE.	R.A. AT OBSERVATION.	CORRECTIONS TO JAN. 1.	MEAN R.A. JAN. 1.	TABULAR R.A.	N.P.D. AT OBSERVATIONS.	CORRECTION TO JAN. 1.	MEAN N.P.D. JAN. 1.	TABULAR N.P.D.	Magnitude.
η Ursae Majoris	June 1 6 13 14 20 21 27	h. m. s. 13 42 44.99 45.03 13 14 20 21 27	s. 3.29 3.17 41.70 41.86 44.54 2.91 41.68 44.43 2.80 41.68 41.71	s. 40 25.11 26.41 23.10 20.24 18.16 0.16 20.83 0.47	° ' " 4 27.09 1.34 1.20 0.30 18.00 0.16 21.30 21.78	" " 3.51 2.42 1.34 1.20 0.30 18.00 0.47 21.30 20.80	" " 23.58 22.69 25.07 21.90 19.91 18.00 21.30 20.80	2		
η Bootis.....	June 1 6 7 8 12 13 21 27	h. m. s. 13 48 52.41 52.59 52.30	s. 2.65 2.65 2.50	s. 49.76 49.94 49.80 49.83	° ' " 70 59 19.46 18.93 18.89 18.22 19.62 16.56 15.51	" " 10.02 10.18 10.17 9.50 9.39 8.42 7.87	" " 8.44 8.75 8.72 8.72 10.23 8.14 7.64	3		
τ Virginis	June 1 7 12 20 21 27	h. m. s. 13 55 25.78 25.81	s. 2.59 2.48	s. 23.19 23.33 23.26	° ' " 87 51 53.11 51.58 51.51 48.61 51.77 48.88	" " 15.42 14.88 14.47 13.82 13.74 13.36	" " 37.69 36.70 37.04 34.79 38.03 35.52	4½		
α Bootis.....	June 7 8 12 20 21 26 27	h. m. s. 14 10 5.73 5.80 5.75 5.73 5.73 5.48	s. 2.74 2.72 2.66 2.61 2.59	s. 2.99 3.08 3.09 3.12 2.89	° ' " 70 10 50.28 48.97 49.71 45.22 47.93 44.12 46.02	" " 10.49 10.32 9.76 8.70 8.56 8.05 7.92	" " 39.79 38.65 39.95 36.52 39.37 36.07 38.10	1		
ρ Bootis.....	June 7 20	h. m. s. 14 26 34.68	s. 2.89	s. 31.79 31.79	° ' " 59 5 22.93 31.76	" " 6.10	" " 16.83 16.88	4		
Anonymous ...	June 26	14 36 11.27	2.26	9.01		123 4 26.46	23.34	3.12		6
ϵ Bootis.....	June 20 28	14 39 39.66 39.68	2.80 2.73	36.86 36.95		62 24 28.61 29.19	7.19 6.06	21.42 23.13		3
				36.91	36.91				22.28	22.83

STAR.	DATE.	R.A. at Observation.	Correction to Jan. 1.	Mean R.A. Jan. 1.	Tabular R.A.	N.P.D. at Observations.	Correction to Jan. 1.	Mean N.P.D. Jan. 1.	Tabular N.P.D.	Magnitude.
α^3 Librae	June 18 20 26 28	h. m. s. 14 44 7'82 7'41 7'30	s. 2'86 2'81 2'80	s. 4'96 4'60 4'50	s. 4'55 4'54	o' ' " 105 32 5'96 5'51 6'37	" 18'55 18'50 18'40	" 47'41 47'01 47'97	" 47'46 46'12	3
B.A.C. 4916...	June 21	14 48 14'46	3'07	11'89	11'27	123 21 41'73	22'74	18'99	18'90	5 $\frac{1}{2}$
ψ Bootis	June 20 26 28 July 3 9	14 59 13'41 18'85 18'25	2'80 2'74 2'68	10'61 10'61 10'57	62 34 26'82 25'79 26'61 28'51 28'54	7'57 6'64 6'34 5'60 4'83	19'25 19'15 20'27 17'91 18'71	19'06	18'52	5
β Librae.....	June 25 26 28 29 July 3 9	15 10 26'22 26'24 26'23 26'34	2'97 2'98 3'01 3'06	23'25 23'26 23'22 23'28	98 55 56'58 57'11 58'12 59'21 55'69 57'13	15'99 15'92 15'81 15'77 15'56 15'28	40'60 41'19 42'31 43'44 40'13 41'85	41'59	39'97	2
α Coronæ	June 25 26 29 July 3 5 6 9	15 29 31'93 31'67 31'60 31'75 31'83 31'58	2'89 2'87 2'84 2'81 2'80 2'78	29'04 28'80 28'76 28'94 29'03 28'80	62 52 19'64 22'05 20'71 22'04 19'23 18'38 18'80	7'16 6'99 6'47 5'80 5'49 5'34 4'89	12'48 15'06 14'24 16'24 13'74 13'04 13'91	14'10	12'78	2
α Serpentis ...	June 25 29 July 3 5 6 18	15 38 15'65 15'50 15 40 15'45 15'80	2'94 2'93 2'92 2'90 2'89	12'71 12'57 12'48 12'55 12'41	83 11 23'41 24'84 24'77 24'00 20'51	11'54 11'08 10'63 10'32 9'13	11'87 13'76 14'14 13'68 11'38	13'06	10'29	2 $\frac{1}{2}$
M.C. 797 or B.A.C. 5227	June 20 21 25 July 3 5 6	15 43 11'83	3'46	8'87	123 15 21'86 21'84 20'32 23'58 21'96 22'65	19'64 19'64 19'93 20'40 20'49 20'54	2'22 2'20 0'39 3'18 1'47 2'11	1'93	4'99	5

STAR.	DATE.	R.A. AT OBSERVATION.	CORRECTION TO JAN. 1.	MEAN R.A. JAN. 1.	TABULAR R.A.	N.P.D. AT OBSERVATION.	CORRECTION TO JAN. 1.	MEAN N.P.D. JAN. 1.	TABULAR N.P.D.	Magnitude.
B.A.C.5268 ...	June 20 21 22 25 29 July 3 5 6 9	h. m. s. 15 49 5.30 5.25 5.18 5.36 5.14	s. 3.54 3.52 3.51 3.49 3.49	s. 1.76 1.78 1.67 1.87 1.65	s. 1.74 2.01	° ' " 123 36 34.53 34.12 34.69 33.53 34.57 34.54 35.51 34.92 34.61	" " 19.34 19.40 19.47 19.68 19.93 20.15 20.27 20.31 20.46	" " 15.19 14.72 15.22 13.85 14.64 14.39 15.24 14.61 14.15	" " 14.67	4.5 12.73
α ¹ Scorpii	June 25 July 5 6 9 18	15 58 20.42 20.45 20.45	3.28 3.27 3.21	17.14 17.18 17.24	17.19 17.18	109 28 20.89 21.16 18.78 18.15 19.85	16.41 16.37 16.35 16.32 16.21	4.48 4.79 1.93 1.83 3.64	3.33 2.05	2
δ Ophiuchi ...	July 18	16 7 57.21	3.04	54.17 54.17	53.98	93 22 47.89	11.10	36.29 36.29	33.59	3
α Scorpīi	July 10 18 31 Aug. 2 3	16 21 55.29 55.41 55.32 55.41	3.49 3.38 3.35 3.35	51.80 52.03 51.97 52.06	51.96 52.05	116 9 44.04 42.57 40.63 43.10 42.29	16.50 16.65 16.78 16.78 16.77	27.54 25.92 23.85 26.32 25.52	25.83 25.77	1
ζ Herculis	July 10 19 29 31 Aug. 2 3	16 36 41.87 41.76 41.68 41.71 41.52 41.74	2.96 2.85 2.75 2.70 2.67 2.66	38.91 38.91 38.93 39.08 38.85 39.08	38.95 39.02	58 10 27.80 24.46 22.65 23.32 20.98	3.48 1.74 0.68 0.36 0.49	24.92 22.72 23.33 23.68 21.47	23.10 23.37	3
κ Ophiuchi ...	July 10 19 25 29 30 31 Aug. 2 3	16 51 53.91 53.91 53.85 53.59 53.75 53.72 53.62	3.11 3.07 3.00 2.98 2.98 2.96 2.96	50.80 50.84 50.85 50.61 50.77 50.76 50.66	50.76 50.78	80 25 65.71 61.58 64.14 59.50 59.93 61.91 61.76 59.76	7.14 5.94 5.22 4.77 4.67 4.61 4.36 4.27	58.57 55.64 58.92 54.73 54.36 57.30 57.40 55.49	56.55 56.08	4

Observed at the Sydney Observatory, 1877.

15

16 *Mean Right Ascensions and North Polar Distances of Stars*

STAR.	DATE.	R.A. AT OBSERVATION.	CORRECTION TO JAN. 1.	MEAN R.A. JAN. 1.	TABULAR R.A.	N.P.D. AT OBSERVATION.	CORRECTION TO JAN. 1.	MEAN N.P.D. JAN. 1.	TABULAR N.P.D.	Magnitude.
σ Octantis S.P.	Feb. 9	h. m. s. 18 18 29.52	s. 42.98	s. 12.50	s.	o' s" "	"	"	"	5.5
S.P.	10	18 32.08	41.21	13.29						
S.P.	19	18 46.56	24.49	11.05						
S.P.	20									
S.P.	26	19 1.70	10.73	12.43						
S.P.	Mar. 29	20 3.44	53.83	9.61						
S.P.	April 6	20 21.71	70.38	11.33						
	30	22 11.08	171.47	19.61						
	Aug. 6					51.32	20.23	31.59		
	9					52.90	20.94	31.96		
	13					53.37	21.84	31.53		
	16	21 55.49	155.70	19.79						
	31	21 27.38	136.42	10.96						
Sept. 2		21 26.54	133.54	13.00						
	Means...	18 19.15		13.71	13.64			37.83	33.20	
α Lyrae Vega...	June 23									1
	July 23									
	Aug. 8	18 32 49.35	2.88	46.47		51 19 54.93	7.09	47.84		
	16	49.19	2.76	46.43		43.49	1.84	45.33		
	22	49.10	2.47	46.63			35.89	7.48	43.37	
	23						34.95	8.61	43.56	
	24	48.96	2.63	46.33			36.05	8.94	44.99	
				46.47	46.43			45.02	47.79	
β Lyrae	Aug. 13	18 45 35.30	2.93	32.37		56 46 37.91	6.95	44.86		4
	16	35.28	2.89	32.39			35.42	8.46	43.88	
	22	35.22	2.81	32.41			35.34	8.79	44.13	
	24	35.21	2.77	32.44				44.29	44.87	
				32.40	32.31					
σ Sagittarii ...	July 23	18 47 42.78	1.20	38.58	38.40					3
ζ Aquilæ	July 23	18 59 48.59	3.31	45.28		76 18 63.16	1.24	64.40		3
	Aug. 6	48.67	3.30	45.36		59.88	3.68	63.03		
	9	48.72	3.28	45.44		62.65	4.18	66.83		
	13	48.66	3.26	45.40			60.37	4.92	65.29	
	22						60.21	5.99	66.20	
	23	48.54	3.20	45.34			58.61	6.11	64.72	
	24	48.40	3.17	45.23						
Sept. 3		48.38	3.06	45.32			57.91	7.27	65.18	
	4	48.36	3.04	45.32			57.73	7.35	65.10	
				45.34	45.30			65.09	64.56	

STAR.	DATE.	R.A. at Observaton.	Correction to Jan. 1.	Mean R.A. Jan. 1.	Tabular R.A.	N.P.D. at Observations.	Correction to Jan. 1.	Mean N.P.D. Jan. 1.	Tabular N.P.D.	Magnitude
ω Aquilæ	Aug. 9 23 Sept. 3 4	h. m. s. 19 12 5'97 5'85 5'68 5'67	s. 3'36 3'28 3'16 3'13	s. 2'61 2'57 2'52 2'54	s. 2'56	° ' " 78 37 26'63 21'62 24'17 22'78	" 4'60 6'48 7'62 7'70	" 31'23 28'10 31'79 30'48	" 30'40	5
δ Aquilæ	Aug. 28 Sept. 3 4 12	19 19 20'92	3'26	17'66	17'71	87 7 38'14 37'59 38'20 36'80	5'72 6'13 6'20 6'63	43'86 43'72 44'40 43'43	43'85	3½
λ^2 Sagittarii ...	Aug. 23 28 Sept. 12 17 19 20	19 29 17'36 17'16 17'30 17'21 17'22	4'26	13'10 13'11 13'33 13'27 13'33	115 9 9'80 11'24 11'11 11'71 11'99 10'07	0'00 0'22 0'84 1'03 1'11 1'15	9'80 11'02 10'27 10'68 10'88 8'92	10'26	10'78	4½
γ Aquilæ	July 16 27 Aug. 23 28 Sept. 12 17 18 19 20	19 40 27'96 28'11 28'06 27'95 27'82 27'75 27'75 27'76	3'43	24'53 24'72 24'70 24'77 24'69 24'64 24'66 24'71	79 40 62'61 58'76 57'88 55'36 56'25 54'64 54'24 54'47	1'94 8'22 9'16 10'22 10'56 10'64 10'68 10'74	64'55 66'98 67'04 65'58 66'81 65'32 64'92 65'21	65'80	67'01	3
α Aquilæ	July 27 Aug. 28 Sept. 12 14 17 18 19 20	19 44 50'22 50'27 50'13 50'08 50'05 49'94 50'01	3'45	46'77 46'87 46'88 46'90 46'89 46'81 46'90	81 27 12'92 7'44 9'52 7'60 7'81 7'34 5'02	8'79 10'13 10'27 10'45 10'51 10'56 10'62	21'71 17'57 19'79 18'05 18'32 17'90 15'64	18'43	18'90	1½
β Aquilæ	July 16 Aug. 28 Sept. 12 14 17 18 19 20	19 49 19'78 19'65 19'30 19'51 19'42	3'48 3'32 3'24 3'13 3'17	16'30 16'33 16'06 16'28 16'25	83 53 52'81 49'98 45'32 46'52 45'94 47'94 45'49 46'25	2'57 7'68 9'90 10'01 10'18 10'23 10'41 10'42	55'38 57'66 55'22 56'53 56'12 58'17 55'90 56'67	56'46	56'98	4

18 *Mean Right Ascensions and North Polar Distances of Stars*

STAR.	DATE.	R.A. AT OBSERVATION.	CORRECTION TO JAN. 1.	MEAN R.A. JAN. 1.	TABULAR R.A.	N.P.D. AT OBSERVATION.	CORRECTION TO JAN. 1.	MEAN N.P.D. JAN. 1.	TABULAR N.P.D.	MAGNITUDE.
α^2 Capricorni ...	Sept. 14 18 20	<i>h. m. s.</i> 20 11 17.59 17.45	<i>s.</i> 3.80 3.75	<i>s.</i> 13.79 13.70	<i>s.</i> 13.75 13.67	° ' " 102 55 21.78 21.07 22.06	" " 6.92 6.90 6.80	28.70 27.97 28.86	" "	3
α Pavonis	Sept. 14 27	20 16 0.48	5.94	54.54 54.54	54.74	157 7 53.30	6.98	60.23 60.23	35.49	2
ρ Capricorni ...	Sept. 18 19 20 24	20 21 54.60 54.49 54.40 54.47	3.99 3.99 3.95 3.93	50.61 50.40 50.45 50.54	50.50 50.50	108 13 1.55 1.55 2.06 0.94	6.43 6.38 6.36 6.24	7.98 7.93 8.42 7.18	7.88 7.76	5
α Cygni	Sept. 24 Oct. 1 5	20 37 16.75 16.62	2.56 2.29	14.19 14.33 14.26	14.30	45 9 9.80 7.87	21.03 22.18	30.83 30.05 30.44	30.55	1
32 Vulpeculae	Aug. 25 Sept. 24 Oct. 5 8	20 49 22.16 22.08 21.79 21.69	3.30 3.01 2.85 2.79	18.86 19.07 18.94 18.90	18.94 19.07	62 24 19.35 16.28 11.73	14.11 19.58 21.12	33.46 35.86 32.85 84.06	33.72	4½
61 ¹ Cygni	Sept. 24 28 Oct. 1 8	21 1 26.17 26.03 25.95 25.71	2.88 2.81 2.75 2.62	23.29 23.22 23.20 23.09	23.20 22.87	51 50 51.28 49.65 50.64 47.52	21.55 22.24 22.73 23.70	72.83 71.89 78.37 71.22	72.33 76.68	5½
ζ Cygni	Aug. 25 Oct. 1 5 8	21 7 45.43 45.00 45.07 44.92	3.33 2.97 2.91 2.87	42.10 42.03 42.16 42.05	42.09 42.06	60 16 18.54 14.95 12.50	14.86 21.91 22.73	33.40 36.86 35.23 35.16	36.81	3
B.A.C. 7475 ...	Aug. 25	21 24 52.83	4.86	47.97	48.66	124 28 52.90	11.77	64.67	11.62	6

STAR.	DATE.	R.A. at Observation.	Correction to Jan. 1.	Mean R.A. Jan. 1.	Tabular R.A.	N.P.D. at Observations.	Correction to Jan. 1.	Mean N.P.D. Jan. 1.	Tabular N.P.D.	Magnitude.
β Aquarii	Sept. 28 30 Oct. 8 15 16	h. m. s. 21 25 8.80 8.75 8.59 8.48	s. 3.81 3.70 3.61 3.61	s. 4.99 5.05 4.98 4.87	s. 4.99 4.97 4.90	° ' " " " 96 6 24.94 25.32 25.48 25.69 25.53	15.42 15.40 15.33 15.18 15.16	40.86 40.72 40.81 40.87 40.69	" " 40.69 40.76	3
ϵ Pegasi	Aug. 25 Sept. 27 28 Oct. 1 5 8 10 15	21 38 12.34 12.33 12.14 12.18 12.08 12.14 11.95	3.66 3.56 3.54 3.52 3.48 3.45 3.35	8.68 8.77 8.60 8.66 8.60 8.69 8.60		80 40 60.77 55.45 56.97 59.88 56.85 56.97 57.40 56.89	16.06 19.80 19.80 20.01 20.23 20.39 20.38 20.35	76.83 75.25 76.79 79.89 77.08 77.36 77.78 77.24		2½
16 Pegasi	Aug. 25 Sept. 27 28 Oct. 5 15	21 47 31.42 31.35 31.13 30.99	3.45 3.34 3.32 3.12	27.97 28.01 27.81 27.87		64 38 53.90 44.83 47.74 48.64 48.80	16.32 22.93 22.93 23.87 24.43	70.22 67.76 70.67 72.51 73.23		5½
α Aquarii	Sept. 27 28 Oct. 16 22 26					90 54 38.80 42.62 40.31 41.98	19.29 19.29 19.40 19.24	58.09 61.91 59.71 61.22		3
α Gruis	Oct. 15 23	22 0 33.62 33.65	5.21 5.07	28.41 28.58		137 33 12.78 12.83	6.35 4.76	19.18 17.59		2
B.A.C. 7702 ...	Aug. 22 24 25	22 1 18.13 18.15	4.79 4.82	13.84 13.83		124 38 12.26 15.14 13.38	16.38 16.18 16.08	28.64 31.32 29.46		6½
Anonymous ...	Aug. 25	22 3 49.18	4.81	44.97		124 36 46.08	16.56	62.64		7
θ Aquarii	Aug. 25 Oct. 15 16 22 23 26					98 28 24.89 23.46 24.09 25.28 23.92	16.42 18.18 18.15 17.89 17.85	41.31 41.64 42.24 43.17 41.77		4½
						20.51	20.48		42.03	42.67

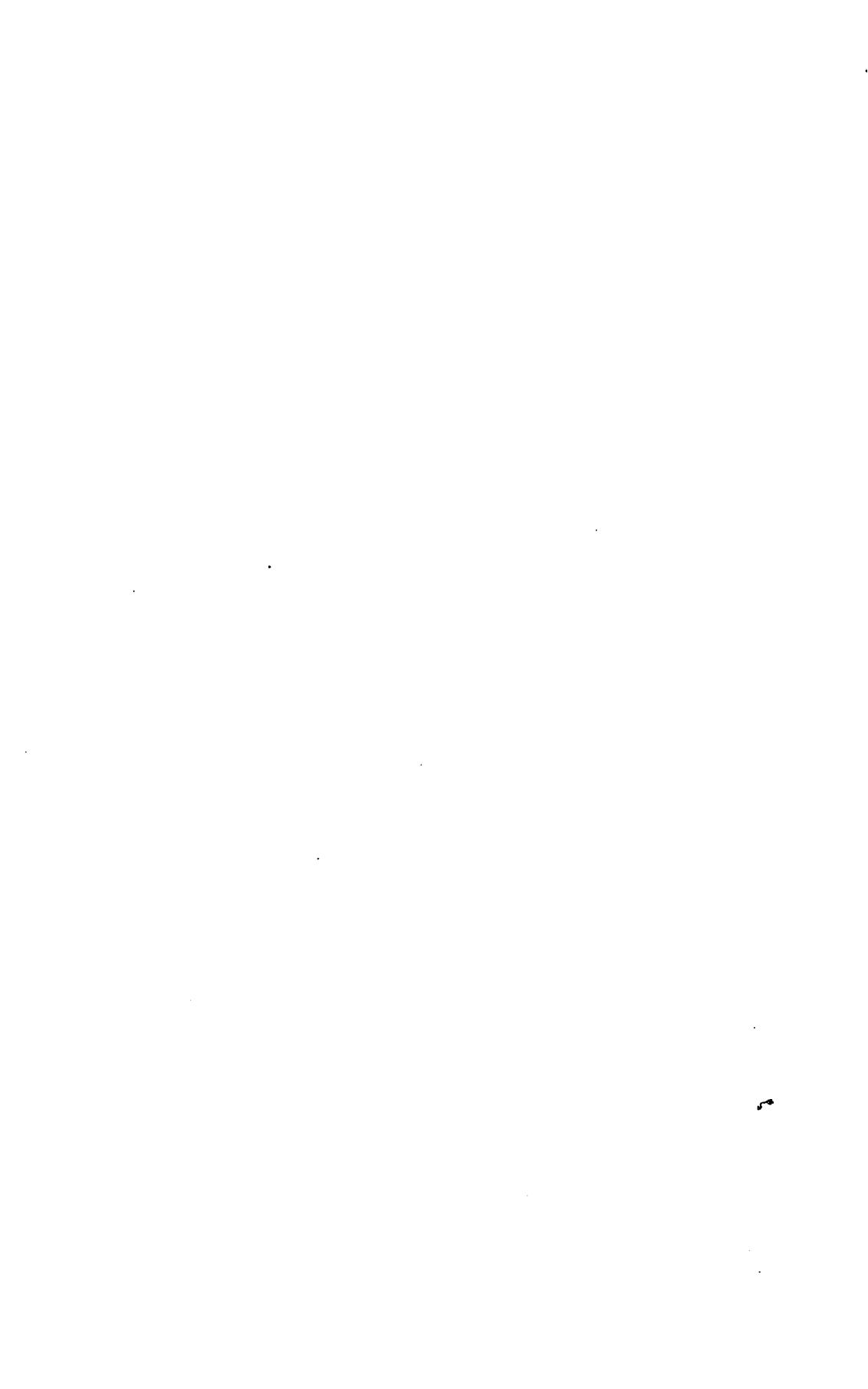
* B.A.C. position to date 124° 38' 42" 54.

20 *Mean Right Ascensions and North Polar Distances of Stars*

STAR.	DATE.	R.A. AT OBSERVATION.	CORRECTION TO JAN. 1.	MEAN R.A. JAN. 1.	TABULAR R.A.	N.P.D. AT OBSERVATIONS.	CORRECTION TO JAN. 1.	MEAN N.P.D. JAN. 1.	TABULAR N.P.D.	MAGNITUDE.
η Aquarii	Oct. 12 25 26	h. m. s. 2 29 5'88 5'83 5'78	s. 3'81 3'69 3'67	s. 2'07 2'14 2'11	s. 2'05	o' ' " 90 44 45'48 40'87	" 17'52 21'39	" 63'00 62'26	" 62'63 63'44	4
ζ Pegasi.....	Oct. 12 25 26	22 35 23'26 22'95 23'18	3'65 3'53 3'53	19'61 19'42 19'60	19'54 19'58	79 48 16'48 12'69 14'90	24'27 24'73 24'75	40'75 37'42 39'65	39'27 37'09	3
B.A.C. 7930 ...	Nov. 6 7	22 38 51'74	4'12 4'62	47'62 47'62	47'44	115 52 45'01 44'07	13'42 13'32	58'43 57'39	57'91 54'93	6
B.A.C. 7980 ...	Nov. 6	22 48 11'27	3'94	7'33	7'38	106 28 11'69	17'19	28'88	26'35	3
α Pis. Aust. ...	Oct. 25 Nov. 6 7	22 50 55'59 55'40 55'38	4'42 4'27 4'25	51'17 51'13 51'13	50'96	120 16 12'20 11'48	12'93 13'17	25'13 24'65	24'89 26'05	1
α Pegasi.....	Aug. 30 Oct. 30 31 Nov. 6 7	22 58 41'69 41'62 41'58 41'39 41'35	3'67 3'56 3'55 3'48 3'48	38'02 38'06 38'03 37'91 37'87	38'04	75 26 56'78 56'14 54'39 55'89	26'55 27'14 27'26 27'28	83'33 83'28 81'65 83'17	82'86 82'23	2
B.A.C. 8085 ...	Nov. 6 8	23 7 60'95 60'98	3'84 3'82	57'11 57'16	57'33	96 42 18'57 19'21	21'57 21'44	40'14 40'65	40'40 40'22	5
γ Piscium	Aug. 30 Oct. 25 30 31 Nov. 1 2 7 8	23 10 51'16 51'19 51'01 51'14 51'20 51'04 50'94	3'81 3'82 3'78 3'78 3'77 3'76 3'71	47'35 47'37 47'23 47'36 47'43 47'28 47'23	47'28	87 22 61'95 57'32 58'87 59'58 59'52 59'16 59'28 58'36	22'08 24'72 24'64 24'64 24'61 24'60 24'47 24'45	84'03 82'04 83'51 84'22 84'13 83'76 83'75 82'81	83'53 89'30	4

Observed at the Sydney Observatory, 1877.

21



STARS OBSERVED FOR MR. DAVID GILL,
RE OPPOSITION OF MARS.

MEAN RIGHT ASCENSIONS and NORTH POLAR DISTANCES,
JANUARY 1, 1877.

STAR.	DATE.	R. A. at Observation.	Correction to Jan. 1.	Mean R. A. Jan. 1.	Tabular R. A.	N. P. D. at Observations.	Correction to Jan. 1.	Mean N. P. D. Jan. 1.	Tabular N. P. D.	Magnitude.	
Gill's <i>d</i> Weisse 1,232.	Nov. 2	h. m. s. 22 59 31.83	3.93	27.90	28.18	° ' "	101 5 45.50	20.10	65.60	63.24	8
Gill's <i>δ</i> Weisse 57.	Oct. 26	23 5 37.83	4.04	33.79	33.71	102 35 42.93	20.56	63.49	59.87	8	
Gill's <i>f</i> Weisse 123.	Nov. 5	23 8 19.11	3.94	15.17	15.66	101 21 6.73	20.35	27.08	25.06	7	
Gill's <i>h</i> Weisse 185.	Nov. 6	23 11 18.78	3.95	14.83	14.95	102 22 45.65	20.15	65.80	64.65	7	
Gill's <i>i</i> Weisse 226.	Nov. 5	23 12 37.36	3.94	33.42	33.93	100 16 38.98	20.95	59.93	60.04	5	
Gill's <i>κ</i> Weisse 228.	Nov. 13	23 12 41.05	3.90	37.15	37.42	102 50 16.14	19.54	35.68	34.79	8	
Gill's <i>λ</i> Weisse 309.	Nov. 2 7 14	23 16 41.66 41.50 41.31	3.99 3.94 3.87	37.67 37.56 37.44	37.56 36.71	101 26 31.62 32.13 33.03	21.05 20.70 20.15	52.67 52.83 53.18	52.89 66.40	8	
Gill's <i>ζ</i> Weisse 315.	Oct. 31 Nov. 5 6	23 16 58.40 58.38 58.47	3.98 3.94 3.93	54.42 54.44 54.54		100 3 12.88 15.30 13.83	21.46 21.13 21.06	34.34 36.43 34.89		8	
Gill's <i>η</i> Weisse 377.	Nov. 13					100 42 19.05	20.67	39.72	37.44	9	
Gill's <i>m</i> Weisse 402.	Nov. 7	23 21 44.93	3.98	40.95	41.09	102 7 14.36	20.78	35.14	31.58	7	

Stars Observed for Mr. David Gill.

STAR.	DATE.	R.A. at Observation.	Correction to Jan. 1.	Mean R.A. Jan. 1.	Tabular R.A.	N. P. D. at Observations.	Correction to Jan. 1.	Mean N.P.D. Jan. 1.	Tabular N.P.D.	Magnitude.
Gill's <i>n</i> Weisse 427.	Aug. 6 Nov. 5	<i>h.</i> <i>m.</i> <i>s.</i> 23 22 42:43 42 83	<i>s.</i> 3:54 3:96	<i>s.</i> 38:89 38:87	<i>s.</i> 38:88	° ' " 99 56 10:42 13:81	" 26:19 21:64	" 36:61 35:45	" 36:03	7 35:11
Gill's <i>q</i> Weisse 497.	Oct. 31 Nov. 2 8 13 14	23 26 7:47 7:40 7:38 7:40 7:23	4:04 4:03 3:97 3:92 3:91	3:43 3:37 3:41 3:48 3:32	 3:40	101 40 19:79 19:45 18:99 20:70 19:49	21:71 21:55 21:08 20:68 20:59	41:50 41:00 40:07 41:38 40:08	 40:81	7 41:32
Gill's <i>r</i> Weisse 571.	Nov. 8	23 29 9:79	3:98	5:81	5:69	101 18 44:74	21:37	66:11	65:89	8
Gill's <i>s</i> Weisse 586.	Nov. 2 5 14	23 29 43:22 43:41	3:83 4:00	39:39 39:41	 39:40	99 26 22:10 21:12 21:49	22:29 22:10 21:45	44:39 43:22 42:94	 43:52	7 43:77
Gill's last star. Weisse 629.	Oct. 31 Nov. 13	23 31 55:41 55:50	4:14 4:02	51:27 51:48	 51:38	99 18 8:17 8:53	22:63 21:70	30:80 30:23	 30:52	7 27:58

SYDNEY OBSERVATORY.

STARS OBSERVED WITH THE PLANET MARS
DURING THE OPPOSITION OF 1877.

MEAN RIGHT ASCENSIONS AND NORTH POLAR DISTANCES, REDUCED TO JANUARY 1, 1877.

STAR.	DATE.	R.A. at Observation.	Correction to Jan. 1.	Mean R.A. Jan. 1.	Tabular R.A.	N.P.D. at Observations.	Correction to Jan. 1.	Mean N.P.D. Jan. 1.	Tabular N.P.D.	Magnitude.
50. Aquarii ... (B.A.C. 7806.)	Oct. 15 16 22 23	22 17 55°72 55°60 55°67 55°70	4°02 4°01 3°93 3°92	51°70 51°59 51°74 51°78		° ' " "	" "	" "	" "	6
				51°70	51°65			68°18	67°39	
σ Aquarii (B.A.C. 7840.)	Sep. 24 Oct. 15 16 22 23	22 24 12°29 12°32 12°05 12°10 12°23	4°11 3°97 3°96 3°89 3°88	8°18 8°35 8°09 8°21 8°35		101 18 3°84 5°74 6°10 7°45 6°80	19°28 18°47 18°40 18°09 18°02	23°12 24°21 24°50 25°54 24°82		5
				8°24	8°34			24°44	19°53	
64. Aquarii ... (B.A.C. 7890.)	Sep. 14 24 Oct. 15 16 22 23 24	22 32 51°67 51°62 51°70 51°52 51°64 51°63 51°59	4°12 4°12 3°97 3°97 3°92 3°92 3°90	47°55 47°50 47°73 47°55 47°72 47°71 47°69		100 39 40°08 40°77 44°92 44°46 45°64 44°39 44°96	20°19 20°08 19°30 19°24 18°91 18°86 18°81	60°27 60°85 64°22 63°70 64°55 63°25 63°77		6½
				47°64	47°87			62°94	60°47	
70. Aquarii ... (B.A.C. 7952.)	Sep. 2 12 14 24 28 29 30 Oct. 15 19 22 23 24	22 42 5°69 6°08 5°95 5°81 5°92 5°82 6°04 5°93 6°04 5°91 5°88 5°66	4°06 4°12 4°11 4°14 4°13 4°13 4°12 4°02 2°05 3°96 3°95 3°95	1°63 1°96 1°84 1°67 1°79 1°69 1°92 1°91 2°05 1°95 1°93 1°71		101 11 55°56 53°35 55°23 54°52 55°88 55°80 55°49 57°92 57°04 59°53 58°57 57°94	20°78 20°86 20°86 20°71 20°59 20°56 20°15 19°84 19°63 19°43 19°39 19°32	16°34 14°21 16°09 15°23 16°47 16°36 15°94 17°76 16°67 18°96 17°96 17°26		6
				1°84	1°97			16°58	15°40	

NOTE.—Too much weight must not be attached to the R.A. of these stars, for in many cases they were hurriedly observed on one wire, only for identification.

STAR.	DATE.	R.A. AT OBSERVATION.	CORRECTION TO JAN. 1.	MEAN R.A. JAN. 1.	TABULAR R.A.	N.P.D. AT OBSERVATION.	CORRECTION TO JAN. 1.	MEAN N.P.D. JAN. 1.	TABULAR N.P.D.	Magnitude
74. Aquarii ... (B.A.C. 7974.)	July 28 31 Aug. 3 6 10 18 19 22 23 24 25 Sep. 2 12 14	h. m. s. 22 46 63°27' 22 46 63°13' 63°74 63°65 63°80 3°79 3°98 3°96 63°87 63°87 63°87 63°72 33°61	s. 3°61 3°66 59°47 59°95 59°72 59°84 60°26 59°85 59°69 4°01 4°02 4°03 4°14 59°47	s. 59°66 59°47 59°84 59°95 59°72 59°84 49°96 49°70 49°46 52°83 51°66 51°26 51°16	s. 102 15 54°40' 53°38 52°26 50°57 53°90 52°74 49°96 49°70 49°46 52°83 51°15 51°18 51°16	° ' " 18°94 19°27 19°56 19°86 20°13 20°65 20°84 20°89 20°92 20°95 21°15 21°18 21°16	" " " " 72°60 71°82 70°43 74°03 73°39 70°80 70°59 70°38 73°78 72°81 72°43 72°32	" " " " 73°34 72°60 71°82 70°43 74°03 73°39 70°80 70°59 70°38 73°78 72°81 72°43 72°32	" " " " 69°62	6
(B.A.C. 8004) ..	Sep. 2 4 12 14	22 53 10°72 10°51 10°80	4°13 4°17 4°19	6°59 6°34 6°61 6°51	103 43 24°65 23°92 23°93 25°34 8°17	21°60 21°61 21°54 21°51 46°03	46°25 45°53 45°47 46°85 43°17		7	
h ¹ . Aquarii ... (B.A.C. 8035.)	July 28 29 31 Aug. 2 3 4 6 8 10 11 18 19 20 22 24 25 Sep. 6	22 58 48°40' 48°00 48°36 48°20 47°93 48°56 48°56 48°49 48°73 48°58 48°56 48°49 48°59 48°60 48°69 49°01	3°43 3°48 3°54 3°55 3°56 4°48 3°68 3°69 3°69 3°81 3°82 3°84 3°89 3°92 3°93 4°04	44°97 44°52 44°82 44°65 44°37 44°89 44°65 44°70 44°68 44°76 44°74 44°97 45°22	98 21 4°68 3°05 6°98 6°27 6°17 5°24 4°75 4°94 6°94 4°38 8°87 6°09 2°90 4°99 5°03 3°82	18°92 19°05 19°30 19°55 19°66 19°78 20°03 20°21 20°41 20°51 21°11 21°27 21°41 21°53 21°60 22°13	23°60 22°10 26°28 25°82 25°83 25°02 24°78 25°15 27°35 24°89 29°98 27°36 24°31 26°52 26°63 25°95 25°73 22°61		6	
Wiesse 1241...	Sep. 24 28 29 30 Oct. 8 13 24	22 59 55°47 55°52 55°43 55°76 55°64 55°24	4°14 4°13 4°13 4°13 4°08 3°98	51°33 51°39 51°30 51°63 51°56 51°24	100 15 41°93 43°11 43°47 42°86 42°71 44°24 44°98	22°26 22°16 22°14 22°10 21°79 21°56 20°95	64°19 65°27 65°61 64°96 64°50 65°80 65°93		7	
				51°41	51°23			65°18	62°67	

Observed at the Sydney Observatory, 1877.

27

STAR.	Date.	R.A. at Observation.			Correction to Jan. 1.	Mean R.A. Jan. 1.	Tabular R.A.	N.P.D. at Observations.	Correction to Jan. 1.	Mean N.P.D. Jan. 1.	Tabular N.P.D.	Magnitude.
		h.	m.	s.								
Weisse 76	July 29	23	6	37°48'	3°43'	34°05'		100 13 55°58'	19°98	75°56		7
			31	37°08'	3°48'	33°60'		57°83	20°22	77°05		
	Aug. 2		2	37°25'	3°53'	33°72'		59°76	20°46	60°22		
			3	37°37'	3°54'	33°83'		57°40	20°57	77°97		
			4	36°94	3°57'	33°37'		57°38	20°66	78°04		
			6					57°20	20°92	78°12		
			8					57°70	21°09	78°79		
			10	37°71	3°70	34°01		58°51	21°25	79°76		
			11	37°82	3°72	34°10		56°16	21°35	77°51		
			19	38°02	3°86	34°16		57°34	21°96	79°30		
			20	37°60	3°87	33°73		57°39	22°04	79°43		
			22	37°55	3°90	33°65		55°63	22°16	77°79		
	Sept. 20		23					57°83	22°23	80°06		
			24	37°45	3°93	33°52		57°46	22°30	79°76		
			25	37°84	3°94	33°70		56°15	22°33	78°48		
			31	37°88	4°01	33°82		56°45	22°58	79°08		
			38°03	4°11	33°92		55°15	22°79	77°94			
			24	38°07	4°14	33°93		56°05	22°73	78°78		
			27	38°20	4°14	34°06		56°88	22°65	79°53		
			28	38°14	4°14	34°00		56°35	22°63	78°98		
			29	38°04	4°14	33°90		57°42	22°59	80°01		
			30	38°16	4°14	34°02		57°75	22°56	80°31		
Oct. 8	38°23	4°12	34°11					56°71	22°25	78°96		
	38°28	4°09	33°77					57°40	22°02	79°42		
	37°86	4°09	33°88					58°46	21°39	79°85		
	37°89	4°01	33°88									
				33°86		34°26				78°83	81°43	
ψ ³ Aquarii..... (B.A.C. 8109.)	July 29											5
		23	11	33°71	2°98	30°73		99 50 51°61	20°14	71°75		
	Aug. 2							51°74	20°40	72°14		
			3	33°79	3°52	30°27		54°25	20°61	74°86		
			4					53°66	20°74	74°40		
			6					50°95	20°84	71°79		
			8					52°24	21°09	73°33		
			10	34°23	3°67	30°56		50°75	21°26	72°01		
			11	34°00	3°68	30°32		51°03	21°44	72°47		
			19	34°24	3°82	30°42		50°75	21°53	72°28		
			20	34°23	3°83	30°40		52°10	22°18	74°28		
			22	34°36	3°89	30°47		51°49	22°25	73°74		
	Sept. 20		23	34°69	3°90	30°79		50°48	22°37	72°80		
			24	34°16	3°92	30°24		51°39	22°44	73°83		
			25	34°36	3°92	30°44		50°92	22°50	73°42		
			34°37	4°12	30°25		50°55	22°55	73°10			
			24	34°59	4°14	30°45		50°41	23°05	73°46		
			28	34°94	4°14	30°80		50°59	22°99	73°58		
			29	34°76	4°14	30°62		54°36	22°89	77°25		
			30	34°85	4°14	30°71		50°99	22°87	73°86		
	Oct. 13		34°64	4°09	30°55		51°69	22°84	74°53			
			24	34°60	4°02	30°58		51°90	22°30	74°20		
					30°51	31°00		53°87	21°22	75°09		
										73°55	76°08	

STAR.	DATE.	R.A. at Observation.	Correction to Jan. 1.	Mean R.A. Jan. 1.	Tabular R.A.	N.P.D. at Observations.	Correction to Jan. 1.	Mean N.P.D. Jan. 1.	Tabular N.P.D.	Magnitude.
97. Aquarii ... (B.A.C. 8142.)	Sept. 20 24 27 29 30 Oct. 13 24	h. m. s. 23 16 16.82 16.53 16.31 16.88	s. 4.25 4.25 4.21 4.14	s. 12.07 12.28 12.10 12.24	s. 12.17	° ' " 105 42 28.51 28.55 31.78 30.46 30.60 30.78 30.73	" 22.88 22.70 22.52 22.40 22.33 21.99 20.47	" 51.39 51.25 54.30 52.86 52.93 52.17 51.20	" 52.30 50.79	6
Anonymous.— Small star preceding Mars.	Aug. 28	23 17 18.10	4.55	8.55		104 41 2.17	24.89	27.06		6
Weisse 394 ...	Sept. 3 4 5 6 12 14 18	23 21 5.84 6.07 6.12 6.07 5.62 6.24	4.07 4.08 4.09 4.11 4.17 4.19	1.77 1.99 2.03 1.96 1.45 2.05		103 35 56.93 57.59 55.53 56.69 54.63 54.92 58.35	23.93 23.94 23.94 23.94 23.90 23.88 23.78	80.86 81.53 79.47 80.63 78.53 78.80 82.13		7
				1.82	2.44			80.28	80.00	
B.A.C. 8199.	Aug. 30 31 Sept. 2 4 5 6 12 15 18					102 12 57.80 55.95 57.59 58.71 58.30 56.36 57.02 57.66 59.08	23.84 23.86 23.89 23.94 23.95 23.97 23.97 23.94 23.89	21.64 19.81 21.48 22.65 22.25 20.33 20.99 21.60 22.97		7
				49.65	49.65			21.52	20.50	
B.A.C. 8221.	Aug. 31 Sept. 3 4 5 6 12 14 15 18	23 31 20.54 20.54 20.76 20.74 20.88 20.96 20.84 20.63 21.07	4.00 4.02 4.06 4.07 4.07 4.13 4.16 4.17 4.18	16.54 16.52 16.70 16.67 16.81 16.83 16.68 16.46 16.89		103 44 4.90 5.65 5.21 5.38 5.65 4.89 7.03 5.59 5.78	24.30 24.34 24.34 24.34 24.35 24.31 24.26 24.25 24.17	29.20 29.99 29.55 29.72 30.00 29.20 31.29 29.84 29.95		6
				16.64	17.26			29.86	29.40	

STAR.	DATE.	R.A. at Observation.	Correction to Jan. 1.	Mean R.A. Jan. 1.	Tabular R.A.	N.P.D. at Observations.	Correction to Jan. 1.	Mean N.P.D. Jan. 1.	Tabular N.P.D.	Magnitude.
		h. m. s.	s.	s.	s.	° ′ ″	° ′ ″	° ′ ″	° ′ ″	
B.A.C. 8239 ...	July 25					102 21	22:04	21:54	43:58	
	28	23 34 50 10	3:36	46:74			20:64	21:94	42:58	6
	29	50 43	3:39	47:04			20:70	22:04	42:74	
	31	49:88	3:48	46:45			23:43	22:28	45:71	
	Aug. 2	50:49	3:49	47:00			24:10	22:51	46:61	
	3	50:14	3:51	46:63			23:50	22:61	46:11	
	4	49:50	3:53	45:97			22:13	22:71	44:84	
	6						21:75	22:96	44:71	
	8						22:85	23:11	45:96	
	10	50:45	3:67	46:78			22:39	23:28	45:67	
	11	50:74	3:69	47:05			22:58	23:36	45:94	
	18	50:69	3:83	46:86						
	19	50:67	3:85	46:82						
	20	50:50	3:86	46:64			21:89	23:87	45:76	
	22						20:95	24:10	45:05	
	23	50:72	3:94	46:78			20:54	24:14	44:68	
	24	50:52	3:96	46:56			20:95	24:20	45:15	
	25						22:05	24:24	46:29	
					46:72	47:11			45:09	41:28
B.A.C. 8266 ...	July 25									
	31	23 40 58:68	3:35	55:33		102 35	4:11	21:92	26:03	6
	Aug. 2						5:38	22:65	28:03	
	3	59:11	3:42	55:69			4:07	22:89	26:96	
	4	58:68	3:44	55:24			6:23	22:96	29:19	
	6						3:76	23:10	26:80	
	8						4:65	23:35	28:00	
	10	59:19	3:58	55:61			4:27	23:49	28:16	
	11	59:57	3:61	55:96			5:92	23:67	29:59	
	18						4:33	23:75	28:08	
	19						5:57	24:28	29:85	
	20	59:46	3:78	55:68			2:97	24:34	27:31	
	22	59:72	3:84	55:88			4:07	24:39	28:46	
	23	59:93	3:86	56:07			2:27	24:50	26:77	
	24	59:42	3:88	55:54			3:33	24:55	27:88	
	25	59:84	3:89	55:95			3:66	24:60	28:26	
	31	59:39	3:96	55:43			4:14	24:68	28:82	
	Sept. 2	59:33	3:99	55:34			3:10	24:84	27:94	
	3	59:44	3:99	55:49			2:97	24:88	27:85	
	4	59:77	4:00	55:77			2:69	24:90	27:59	
	6	59:49	4:03	55:46			2:90	24:91	27:81	
	12	59:83	4:11	55:74			5:86	24:93	30:79	
	14						4:45	24:94	29:37	
	15	59:78	4:14	55:64			4:06	24:89	28:95	
	18	59:67	4:15	55:52			2:42	24:89	27:31	
					55:64	55:44			3:69	24:83
									28:17	24:67

30 *Mean Right Ascensions and North Polar Distances of Stars*

STAR.	DATE.	R.A. AT OBSERVATION.	CORRECTION TO JAN. 1.	MEAN R.A. JAN. 1.	TABULAR R.A.	N.P.D. AT OBSERVATIONS.	CORRECTION TO JAN. 1.	MEAN N.P.D. JAN. 1.	TABULAR N.P.D.	Magnitude.
B.A.C. 8285 ...	July 31	<i>h. m. s.</i>	<i>s.</i>	<i>s.</i>	<i>s.</i>	° ' "	" "	" "	" "	6
	Aug. 2					100 39 16.84	22.36	38.70		
	3					15.96	22.53	38.49		
	4	28 43 57.49	3.40	54.09		17.40	22.72	40.12		
	10	57.47	3.54	53.93		14.53	22.84	37.37		
	11					15.44	23.46	39.30		
	18					14.82	23.57	38.39		
	19	57.41	3.71	53.70		16.11	24.15	40.26		
	20					13.23	24.28	37.51		
	22					13.83	24.29	38.12		
	23	57.69	3.81	53.88		13.56	24.42	37.98		
	24					12.05	24.48	36.53		
	25	57.91	3.85	54.06		12.88	24.53	37.41		
				53.93	53.63	14.17	24.59	38.76		
								38.38	49.35	
Weisse 985 ...	July 29	23 49 30.02	3.26	26.76		103 49 38.98	23.21	62.19		7
	31	29.48	3.82	26.16		41.89	23.44	65.33		
	Aug. 2	29.79	3.37	26.32		42.00	23.66	65.66		
	3	29.48	3.40	26.08		41.90	23.78	65.68		
	4	29.52	3.42	26.10		40.49	23.88	64.37		
	6	29.32	3.47	25.85		40.67	24.08	64.75		
	8	30.61	3.51	27.10		40.49	24.26	64.75		
	10	28.75	3.56	25.19		40.73	24.42	65.15		
	11					40.77	24.51	65.28		
	19	29.81	3.77	26.04		40.26	25.05	65.31		
	20	30.52	3.78	26.74		41.39	25.11	66.50		
	22	30.28	3.82	26.46		40.47	25.21	65.68		
	23	30.40	3.84	26.56		38.07	25.26	63.33		
	24	30.09	3.86	26.23		38.77	25.31	64.08		
	25	30.85	3.87	26.78		40.46	25.34	65.80		
			26.28	26.99				64.92	66.04	

DAILY RESULTS OF OBSERVATIONS
TAKEN DURING THE OPPOSITION OF MARS, 1877.

Date.	Name.	R.A.	N.P.D.	Remarks.
July 25...	Mars B.A.C. 8,239 B.A.C. 8,266 Weisse 988	h. m. s. No transits	° ' " 99 45 31-69 102 21 22-04 102 35 4-11 104 38 42-67	
July 28...	74 Aquarii λ ¹ Aquarii Mars Mars B.A.C. 8,239	23 27 19-15 23 34 50-10	102 15 54-40 98 21 4-68 99 43 42-14 99 43 49-83 102 21 20-64	
July 29...	λ ¹ Aquarii Weisse 76 λ ² Aquarii Mars B.A.C. 8,239 Weisse 985	22 58 48-40 23 6 37-48 23 27 40-82 23 34 50-43 23 49 30-02	98 21 3-05 100 18 55-58 99 50 51-61 99 44 54-48 102 21 20-70 103 49 38-98	
July 31 ...	74 Aquarii λ ¹ Aquarii Weisse 76 λ ² Aquarii Mars Mars B.A.C. 8,239 B.A.C. 8,266 B.A.C. 8,285 Weisse 985	22 47 3-27 22 58 48-00 23 6 37-08 23 11 33-71 23 27 26-87 23 34 49-88 23 40 58-68 23 49 29-48	102 15 53-33 98 21 6-98 100 18 57-83 99 50 51-74 99 45 57-49 99 46 8-08 102 21 23-43 102 35 5-38 100 39 16-34 103 49 41-89	
Aug. 2 ...	λ ¹ Aquarii..... Weisse 76..... λ ² Aquarii	22 58 48-36 23 6 37-25	98 21 6-27 100 18 59-76 99 50 54-25	
	Mars	23 28 2-77	99 48 9-30	
	B.A.C. 8,239	23 34 50-49	99 48 20-89	
	B.A.C. 8,266		102 21 24-10	
	B.A.C. 8,285		102 35 4-07	
	Weisse 985	23 49 29-79	100 39 15-96	
			103 49 42-00	
Aug. 3...	74 Aquarii λ ¹ Aquarii Weisse 76..... λ ² Aquarii	22 47 3-13 22 58 48-20 23 6 37-37 23 11 33-79	102 15 52-26 98 21 6-17 99 18 57-40 99 50 53-66	
	Mars	23 28 15-34	99 49 39-08	
	B.A.C. 8,239	23 34 50-14	99 49 50-91	
	B.A.C. 8,266	23 40 59-11	102 21 23-50	
	B.A.C. 8,285		102 35 6-23	
	Weisse 985	23 49 29-48	100 39 17-40	
			103 49 41-90	

Daily Results of Observations

Date.	Name.	R.A.	N.P.D.	Remarks.
Aug. 4...	h^1 Aquarii	22 58 47.93	98 21 5.24	
	Weisse 76	23 6 36.94	100 13 57.38	
	ψ^2 Aquarii		99 50 50.95	Stars very steady.
	Mars		99 51 24.88	
	Mars	23 28 24.46	99 51 36.28	
	B.A.C. 8,239	23 34 49.50	102 21 22.13	
	B.A.C. 8,266	23 40 58.68	102 35 3.76	
	B.A.C. 8,285	23 43 57.49	100 39 14.53	
	Weisse 985	23 49 29.52	103 49 40.49	
Aug. 6...	74 Aquarii		102 15 50.57	
	h^1 Aquarii		98 21 4.75	
	Weisse 76		100 13 57.20	Stars steady but badly
	ψ^2 Aquarii		99 50 52.24	defined.
	Mars		99 55 43.62	
	Mars	23 28 34.44	99 55 55.61	
	B.A.C. 8,239		102 21 21.75	
	B.A.C. 8,266		102 35 4.65	
	Weisse 985	23 49 29.32	103 49 40.67	
Aug. 8...	h^1 Aquarii		98 21 4.94	
	Weisse 76	23 6 38.19	100 13 57.70	
	ψ^2 Aquarii		99 50 50.75	
	Mars		100 1 13.98	
	B.A.C. 8,239		102 21 22.85	
	B.A.C. 8,266		102 35 4.27	
	Weisse 985	23 49 30.61	103 49 40.49	
Aug. 10...	74 Aquarii	22 47 3.74	102 15 53.90	
	h^1 Aquarii	22 58 48.57	98 21 6.94	
	Weisse 76	23 6 37.71	100 13 58.51	
	ψ^2 Aquarii	23 11 34.23	99 50 51.03	
	Mars		100 7 20.60	
	Mars	23 28 16.76	100 7 30.66	
	B.A.C. 8,239	23 34 50.45	102 21 22.39	
	B.A.C. 8,266	23 40 59.19	102 35 5.92	
	B.A.C. 8,285	23 43 57.47	100 39 15.44	
	Weisse 985	23 49 28.75	103 49 40.73	
Aug. 11...	h^1 Aquarii	22 58 48.73	98 21 4.38	
	Weisse 76	23 6 37.82	100 13 56.16	
	ψ^2 Aquarii	23 11 34.00	99 50 50.75	
	Mars		100 10 44.65	
	Mars	23 28 4.20	100 10 55.90	
	B.A.C. 8,239	23 34 50.74	102 21 22.58	
	B.A.C. 8,266	23 40 59.57	102 35 4.33	
	B.A.C. 8,285		100 39 14.82	
	Weisse 985		103 49 40.77	
Aug. 18...	74 Aquarii	22 47 3.65	102 15 52.74	
	h^1 Aquarii	22 58 48.58	98 21 8.87	
	Mars		100 40 5.22	
	Mars	23 25 11.63	100 40 17.94	
	B.A.C. 8,239	22 34 50.69		
	B.A.C. 8,266		102 35 5.57	
	B.A.C. 8,285		100 39 16.11	

Date.	Name.	R.A.	N.P.D.	Remarks.
Aug. 19 ...	74 Aquarii h ¹ Aquarii Weisse 76 ψ ² Aquarii Mars B.A.C. 8,239 B.A.C. 8,266 B.A.C. 8,285 Weisse 985	h. m. s. 22 47 3'80 22 58 48'56 23 6 38'02 23 11 34'24 23 24 35'81 23 34 50'67 23 43 57'41 23 49 29'81	° ' " 100 13 57'34 99 50 52'10 100 45 2'39 102 35 2'97 100 39 13'23 103 49 40'26	
Aug. 20 ...	h ¹ Aquarii Weisse 76 ψ ² Aquarii Mars Mars B.A.C. 8,239 B.A.C. 8,266 B.A.C. 8,285 Weisse 985	22 58 48'49 23 6 37'60 23 11 34'23 23 23 57'02 23 34 50'50 23 40 59'46 23 49 30'52	98 21 6'09 100 13 57'39 99 50 51'49 100 49 41'51 100 49 52'17 102 21 21'89 102 35 4'07 100 39 13'83 103 49 41'89	Stars unsteady.
Aug. 22 ...	74 Aquarii h ¹ Aquarii Weisse 76 ψ ² Aquarii Mars Mars B.A.C. 8,239 B.A.C. 8,266 B.A.C. 8,285 Weisse 985	22 58 48'59 23 6 37'55 23 11 34'36 23 22 32'07 23 40 59'72 23 49 30'28	102 15 49'96 98 21 2'90 100 13 55'63 99 50 50'43 100 59 40'85 100 59 52'78 102 21 20'95 102 35 2'27 100 39 13'56 103 49 40'47	Stars are badly defined and dancing two or three seconds. Stars at times fairly defined, at other times blazing up to four times their proper size.
Aug. 23 ...	74 Aquarii Weisse 76 ψ ² Aquarii Mars Mars B.A.C. 8,239 B.A.C. 8,266 B.A.C. 8,285 Weisse 985	22 47 4'27 23 11 34'69 23 21 46'21 23 34 50'72 23 40 59'93 23 43 57'69 23 49 30'40	102 15 49'70 100 13 57'83 99 50 51'39 101 4 49'60 101 5 0'52 102 21 20'54 102 35 3'33 100 39 12'05 103 49 38'07	Stars steady.
Aug. 24 ...	74 Aquarii h ¹ Aquarii Weisse 76 ψ ² Aquarii Mars Mars B.A.C. 8,239 B.A.C. 8,266 B.A.C. 8,285 Weisse, 985	22 47 3'87 22 58 48'60 23 6 37'45 23 11 34'16 23 20 57'57 23 34 50'52 23 40 59'42 23 49 30'09	102 15 49'46 98 21 4'99 99 13 57'16 99 50 50'92 101 10 0'88 101 10 10'47 102 21 20'95 102 35 3'66 100 39 12'88 103 49 38'77	Not very satisfactory.
Aug. 25 ...	74 Aquarii h ¹ Aquarii Weisse 76 ψ ² Aquarii Mars Mars B.A.C. 8,239 B.A.C. 8,266 B.A.C. 8,285 Weisse, 985	22 47 3'72 22 58 48'69 23 6 37'84 23 11 34'36 23 20 7'44 23 40 59'84 23 43 57'91 23 49 30'85	102 15 52'88 98 21 5'08 100 13 58'15 99 50 50'55 101 15 18'27 101 15 24'27 102 21 22'05 102 35 4'14 100 39 14'17 103 49 40'46	

Daily Results of Observations

Date.	Name.	R.A.	N.P.D.	Remarks.
Aug. 30 ...	Mars..... B.A.C. 8,199	h. m. s.	° ' "	Good definition.
Aug. 31 ...	Weisse 76..... Mars	23 6 37.83	100 13 56.45	
	Mars	23 14 26.17	101 46 10.27	
	B.A.C. 8,199	23 31 20.54	101 46 19.57	
	B.A.C. 8,221	23 40 59.39	102 12 55.95	
	B.A.C. 8,266		103 44 4.90	
			102 35 3.10	
Sept. 2 ...	70 Aquarii	22 42 5.69	101 11 55.56	
	74 Aquarii		102 15 51.66	
	B.A.C. 8,004		103 43 24.65	
	Mars	23 12 21.37	101 56 1.60	
	Mars	23 25 53.62	101 56 13.49	
	B.A.C. 8,199	23 40 59.33	102 12 57.59	
	B.A.C. 8,266		102 35 2.97	
Sept. 3 ...	Mars	23 11 17.40	102 0 53.73	
	Weisse 39 1/2	23 21 5.84	103 35 56.93	
	B.A.C. 8,221	23 31 20.54	103 44 5.65	
	B.A.C. 8,266	23 40 59.48	102 35 2.69	
Sept. 4 ...	B.A.C. 8,004	22 53 10.72	103 43 23.92	
	Mars	23 10 13.17	101 35 32.23	
	Weisse 394	23 21 6.07	103 35 57.59	
	B.A.C. 8,199	23 25 53.91	102 12 58.71	
	B.A.C. 8,221	23 31 20.76	103 44 5.21	
	B.A.C. 8,266	23 40 59.77	102 35 2.90	
Sept. 5 ...	Mars		102 9 46.78	
	Mars	23 9 8.21	102 9 56.56	
	Weisse 394	23 21 6.12	104 34 55.53	
	B.A.C. 8,199	23 31 20.74	102 12 58.30	
	B.A.C. 8,221		103 44 5.38	
Sept. 6 ...	h ¹ Aquarii	22 58 49.01	98 21 3.82	
	Mars	23 8 3.18	102 14 12.04	
	Weisse 394	23 21 6.07	103 34 56.69	
	B.A.C. 8,199		102 12 56.36	
	B.A.C. 8,221	23 31 20.88	103 44 5.65	
	B.A.C. 8,266	23 40 59.49	102 35 5.86	
Sept. 12 ...	70 Aquarii	22 42 6.08	101 11 53.35	
	74 Aquarii		102 15 51.25	
	B.A.C. 8,004	22 53 10.51	103 43 23.93	
	Mars		102 34 53.92	
	Mars	23 19 39.52	102 35 5.02	
	Weisse 394		103 35 54.63	
	B.A.C. 8,199	23 25 53.88	102 12 57.02	
	B.A.C. 8,221	23 31 20.96	103 44 4.89	
	B.A.C. 8,266	23 40 59.83	102 35 4.45	

Date.	Name.	R.A.	N.P.D.	Remarks.
Sept. 14...	64 Aquarii 70 Aquarii 74 Aquarii B.A.C. 8,004 Mars Weisse 391 B.A.C. 8,221 B.A.C. 8,266	h. m. s. 22 32 51.67 22 42 5.95 22 47 8.61 22 53 10.80 23 21 5.62 23 31 20.84	° ' " 100 39 40.08 101 11 55.23 102 15 51.16 103 43 25.34 102 39 57.83 103 35 54.92 103 44 7.03 102 35 4.06	
Sept. 15...	Mars Mars B.A.C. 8,199 B.A.C. 8,221 B.A.C. 8,266	22 58 17.77 23 25 53.76 23 31 20.63 23 40 59.78	102 41 44.03 102 41 54.15 102 12 57.66 103 44 5.59 102 35 2.42	
Sept. 18...	Mars Mars Weisse 394 B.A.C. 8,199 B.A.C. 8,221 B.A.C. 8,266	22 55 51.75 23 21 6.24 23 25 53.89 23 31 21.07 23 40 59.67	102 45 51.07 102 45 59.78 103 35 58.35 102 12 59.08 103 44 5.78 102 35 3.69	
Sept. 20...	Mars Mars Weisse 76 ψ^2 Aquarii 97 Aquarii	22 54 10.57 23 6 38.03 23 11 31.37	102 47 0.25 102 47 10.28 100 13 55.15 99 50 50.41 105 42 28.51	
Sept. 24...	σ Aquarii 64 Aquarii 70 Aquarii Mars Mars Weisse 1,241 Weisse 76 ψ^2 Aquarii 97 Aquarii	22 24 12.29 22 32 51.62 22 42 5.81 22 51 14.95 22 50 55.47 23 6 38.07 23 11 34.59 23 16 16.92	101 18 3.84 100 39 40.77 101 11 54.52 102 45 28.03 102 45 38.75 99 45 41.35 100 17 56.14 99 50 50.59 105 42 28.55	
Sept. 27...	50 Aquarii Mars Weisse 76 97 Aquarii	22 17 56.01 22 49 30.18 23 6 38.34	102 41 7.60 100 13 56.88 105 42 31.78	
Sept. 28...	70 Aquarii Mars Weisse 1,241 Weisse 76 ψ^2 Aquarii	22 42 5.92 22 49 0.21 22 59 55.52 23 6 38.14 23 11 34.94	101 11 55.88 102 38 58.07 100 15 43.11 100 13 56.35 99 50 54.36	
Sept. 29...	70 Aquarii Mars Weisse 1,241 Weisse 76 ψ^2 Aquarii 97 Aquarii	22 42 5.82 22 48 33.52 22 59 55.43 23 6 38.04 23 11 34.76	101 11 55.80 102 36 30.64 100 15 43.47 100 13 57.42 99 50 50.99 105 42 30.46	

Daily Results of Observations

Date.	Name.	R.A.	N.P.D.	Remarks.
Sept. 30...	70 Aquarii	h. m. s. 22 42 6·04	° ' " 101 11 55·49	
	Mars		102 33 33·61	
	Mars	22 48 9·77	102 33 48·24	
	Weisse 1,241	22 59 55·76	100 15 42·86	
	Weisse 76.....	23 6 38·16	100 13 57·75	
	ψ ² Aquarii	23 11 34·85	99 50 51·69	
	97 Aquarii	23 16 16·53	105 42 30·60	
Oct. 8 ...	Mars	22 46 44·08	102 0 19·22	
	Mars		102 0 28·61	
	Weisse 1,241		100 15 42·71	
	Weisse 76.....	23 6 38·23	100 13 56·71	
Oct. 12...	Mars	22 47 13·89	101 36 47·51	
	Mars		101 36 56·96	Observed by "L."
Oct. 18...	Mars	22 47 28·90	101 30 12·68	
	Mars		101 30 22·61	
	Weisse 1,241	22 59 55·64	100 15 44·24	
	Weisse 76.....	23 6 37·86	100 13 57·40	
	ψ ² Aquarii	23 11 34·64	99 50 51·90	
	97 Aquarii	23 16 16·31	105 42 30·78	
Oct. 15...	50 Aquarii	22 17 55·72	104 8 50·12	
	σ Aquarii	22 24 12·32	101 18 5·74	
	64 Aquarii	22 32 51·70	100 39 44·92	
	70 Aquarii	22 42 5·93	101 11 57·92	
	Mars		101 16 21·72	
	Mars	22 48 6·98	101 16 31·02	
Oct. 16...	50 Aquarii	22 17 55·60	104 8 50·91	
	σ Aquarii	22 24 12·05	101 18 6·10	
	64 Aquarii	22 32 51·52	100 39 44·46	
	Mars		101 9 3·04	
	Mars	22 48 30·50	101 9 10·52	Mars unsteady.
Oct. 19...	70 Aquarii	22 42 6·04	101 11 57·04	
	Mars		100 45 42·72	
	Mars	22 49 57·71	100 45 53·02	Clouds passing over planet. Sky obscured after observation.
Oct. 22...	50 Aquarii	22 17 55·67	104 8 52·97	
	σ Aquarii	22 24 12·10	101 18 7·45	
	64 Aquarii	22 32 51·64	100 39 45·64	
	70 Aquarii	22 42 5·91	101 11 59·53	
	Mars		100 20 27·81	
	Mars	22 51 48·19	100 20 36·82	
Oct. 23...	50 Aquarii	22 17 55·70	104 8 50·99	
	σ Aquarii	22 24 11·23	101 18 6·80	
	64 Aquarii	22 32 51·63	100 39 44·39	
	70 Aquarii	22 42 5·88	101 11 58·57	
	Mars		100 11 36·70	
	Mars	22 52 30·15	100 11 45·97	
Oct. 24...	64 Aquarii	22 32 51·59	100 39 44·96	
	70 Aquarii	22 42 5·66	101 11 57·94	
	Mars		100 2 33·17	
	Mars	22 53 14·26	100 2 42·60	
	Weisse 1,241	22 59 55·24	100 15 44·98	
	Weisse 76.....	23 6 37·89	100 13 58·46	
	ψ ² Aquarii.....	23 11 34·60	99 50 53·87	
	97 Aquarii	23 16 16·38	105 42 30·73	

SYDNEY OBSERVATORY.

CATALOGUE OF
CONCLUDED MEAN RIGHT ASCENSIONS,
AND
MEAN NORTH POLAR DISTANCES,
FOR 1877, JANUARY 1,
OF
STARS OBSERVED IN THE YEAR 1877,
WITH THE ANNUAL PRECESSIONS.

No.	Name of Star.	Mag.	Number of Obs. of R.A.	Fraction of the Year for Mean	Mean R.A. 1877. Jan. 1.	Pre- cession in R.A.	Number of Obs. of N.P.D.	Fraction of the Year for Mean	Mean N.P.D. 1877. Jan. 1.	Pre- cession in N.P.D.
1	α Andromedæ	2	4	.87	0 2 187	+ 3.088	5	.87	61 35 20.76	19.908
2	β Hydri	3	4	.85	19 16.56	3.273	5	.81	77 56 36.57	20.245
3	12 Ceti	6	2	.84	23 45.71	3.059	2	.84	94 38 13.19	19.937
4	β Ceti	2	1	.91	37 25.03	3.012	2	.90	108 39 45.54	19.806
5	ϵ Piscium	4	4	.91	56 33.63	3.112	5	.90	82 46 20.96	19.446
6	θ Ceti	3	6	.92	1 17 52.53	2.916	7	.92	98 49 8.00	18.686
7	η Piscium	4	7	.92	24 54.06	3.200	7	.92	75 17 21.29	18.692
8	ν Piscium	5	8	.93	35 1.82	3.114	7	.93	85 8 8.16	18.314
9	β Arietis	3	9	.94	47 50.73	3.298	7	.94	69 47 39.80	17.764
10	α Arietis	2	9	.94	2 0 14.40	3.367	8	.94	67 7 12.60	17.206
11	67 Ceti	6	7	.95	10 50.95	2.987	7	.95	96 59 24.00	16.733
12	B.A.C. 765	6	5	.95	22 49.45	2.540	5	.96	124 21 44.55	16.284
13	γ^2 Ceti	3	3	.95	37 55.62	3.101	4	.95	87 17 1.06	15.342
14	α Ceti	2 $\frac{1}{2}$	5	.98	55 51.04	3.129	4	.98	86 23 37.59	14.324
15	δ Arietis	4	4	.98	3 4 35.81	3.419	3	.97	70 44 23.99	13.892
16	ϵ Eridani	3	2	.98	27 8.03	2.822	2	.98	99 52 34.17	12.363
17	α^1 Eridani	4 $\frac{1}{2}$	1	.99	4 5 51.85	2.923	1	.99	97 9 38.37	9.648
18	β Orionis	1	1	.21	5 8 37.59	2.880	1	.21	98 20 46.38	4.436
19	β Tauri	2	1	.11	18 31.09	3.790	1	.21	90 23 43.28	3.408
20	δ Orionis	2	3	.15	25 43.38	3.064	...	...	.....	.....
21	α Leporis	3 $\frac{1}{2}$	2	.11	27 18.38	2.646	...	...	.....	.....
22	ϵ Orionis	2	3	.12	29 58.28	3.041	1	.14	91 16 58.42	2.608
23	α Columbae	2	2	.15	35 11.81	2.179	2	.16	124 8 26.62	2.165
24	α Orionis	1	4	.21	48 30.76	3.246	3	.24	82 37 5.59	—1.002
25	ν Orionis	4 $\frac{1}{2}$	4	.17	6 0 33.03	3.426	2	.19	75 13 8.00	+ 0.070
26	μ Geminorum	3	5	.15	15 31.23	3.632	2	.15	67 25 31.15	1.499
27	α Argus (Canopus)	1	3	.17	21 13.17	1.330	3	.18	142 37 43.13	1.855
28	γ Geminorum	2 $\frac{1}{2}$	8	.17	30 36.41	3.466	8	.18	73 29 53.50	2.713
29	α Canis Majoris ..	1	7	.17	39 43.57	2.646	7	.18	106 32 59.37	4.702
30	ϵ Canis Majoris ..	2 $\frac{1}{2}$	8	.16	53 47.38	2.357	7	.19	118 48 23.51	4.685
31	γ Canis Majoris ..	4	6	.17	58 11.70	2.717	5	.17	105 27 12.42	5.050
32	δ Geminorum	3	7	.17	7 12 46.64	3.591	6	.18	67 47 35.36	6.284
33	α^2 Geminor	1 $\frac{1}{2}$	9	.16	26 45.16	3.840	6	.18	57 50 37.46	7.494
34	α Can. Min.	1	9	.16	32 51.66	3.144	7	.18	84 27 43.03	8.988
35	β Geminor	2	9	.17	37 47.34	3.679	5	.18	61 40 43.15	8.363
36	6 Cancri	5	6	.16	55 57.73	3.693	4	.19	61 51 45.46	9.792
37	B.A.C. 2,717	6	1	.17	8 0 18.55	2.316	2	.18	123 14 33.45	10.051
38	B.A.C. 2,719	6	5	.17	6 1 59.97	2.320	12	.18	123 13 6.30	10.170
39	η Cancri	6	2	.20	25 35.59	3.477	3	.18	69 8 33.91	11.962
40	ϵ Hydrae	4	2	.24	40 16.00	3.183	3	.21	83 7 55.15	12.950
41	κ Cancri	5	3	.29	9 1 5.02	3.256	7	.25	78 50 19.44	14.249
42	83 Cancer	6	3	.30	12 6.92	3.355	5	.29	71 46 31.68	15.072

No.	Name of Star.	Mag.	Number of Obs. of R.A.	Fraction of the Year for Mean.	Mean R.A. 1877. Jan. 1.	Prec- cession in R.A.	Number of Obs. of N.P.D.	Fraction of the Year for Mean.	Mean N.P.D. 1877. Jan. 1.	Prec- cession in N.P.D.
43	ι Argus	2	1	.23	9 13 47.77	+1°.602	1	.23	.....	14°.938
44	α Hydræ	2	6	.23	21 32.55	2.947	8	.28	98 7 37.02	15°.420
45	ϵ Leonis	3	7	.28	35 52.12	3.418	8	.28	65 39 38.48	16°.392
46	π Leonis	5	5	.30	53 42.70	3.176	7	.29	81 22 1.96	17°.117
47	α Leonis	1	6	.29	10 1 49.16	3.200	9	.29	77 25 59.68	17°.438
48	γ^1 Leonis	2	4	.27	13 11.35	3.315	5	.28	69 32 15.91	18°.067
49	ρ Leonis	4	6	.29	26 20.10	3.165	6	.29	80 3 40.70	18°.434
50	l Leonis	5	6	.34	42 47.38	3.157	6	.34	78 48 16.59	18°.948
51	χ Leonis	5	6	.33	58 40.36	3.098	6	.33	82 0 0.69	19°.421
52	δ Leonis	2	8	.33	11 7 33.91	3.201	9	.38	68 48 11.03	19°.672
53	δ Crateris	3	3	.35	13 11.45	2.995	6	.34	101 6 48.76	19°.458
54	v Leonis	4	5	.38	30 39.05	3.069	7	.37	90 8 43.89	19°.860
55	β Leonis	2	6	.37	42 47.09	3.064	5	.37	74 44 27.36	20°.098
56	ϵ Corvi	4	5	.39	12 3 48.04	3.076	5	.30	111 56 9.14	20°.041
57	β Chamaleontis	5	4	.77	11 9.50	3.352	.....	.....	.....	.....
58	η Virginis	3	1	.39	12 36.84	3.065	1	.39	89 59 3.07	20°.049
59	β Corvi	2	6	.41	27 55.58	3.132	4	.40	112 43 2.58	19°.975
60	γ Virginis (mean)	4	4	.39	35 25.62	3.038	.....	.....	.....	.....
61	γ^1 Virginis (1st star)	4	...	...	.....	.....	5	.42	90 46 28.93	19°.865
62	M.C. 639	4	...	...	.....	.....	1	.47	123 19 41.41	19°.697
63	α Canum Venaticor	3	4	.40	50 16.41	2.814	5	.40	51 1 2.50	19°.513
64	θ Virginis	4	7	.43	13 3 34.84	3.100	8	.42	94 53 57.48	19°.327
65	α Virginis	1	6	.43	18 42.83	3.151	8	.42	100 31 10.78	18°.922
66	ζ Virginis	4	4	.42	28 25.48	3.053	8	.43	89 58 1.43	18°.519
67	η Ursæ Majoris	2	4	.45	42 41.71	2.372	7	.45	40 4 21.78	18°.103
68	η Boötis	3	3	.45	48 49.83	2.858	7	.44	70 59 8.66	18°.194
69	τ Virginis	4	2	.46	55 23.26	3.049	6	.45	87 51 36.63	17°.634
70	α Boötis	1	5	.46	14 10 3.03	2.734	7	.46	70 10 38.35	18°.839
71	ρ Boötis	4	1	.43	26 31.79	2.587	1	.47	59 5 16.83	15°.952
72	Anonymous	6	1	.48	36 9.01	3.619	1	.48	123 4 3.12	15°.593
73	ϵ Boötis	3	2	.48	39 36.91	2.619	2	.48	62 24 22.28	15°.373
74	α^2 Librae	3	3	.48	44 4.55	3.309	3	.48	105 32 3.12	15°.190
75	B.A.C. 4,916	5	1	.47	48 11.39	.....	1	.47	123 21 18.99	.....
76	ψ Boötis	5	3	.50	59 10.60	2.570	5	.49	62 34 19.06	14°.230
77	β Librae	2	4	.50	15 10 23.25	3.219	6	.49	98 55 41.69	13°.531
78	α Coronæ Borealis	2	6	.50	29 28.90	2.539	7	.50	62 52 14.10	12°.313
79	α Serpentis	2	5	.50	38 12.54	2.951	6	.51	83 11 13.06	11°.579
80	B.A.C. 5,227	5	1	.50	43 8.37	3.795	6	.49	123 15 1.93	11°.277
81	B.A.C. 5,268	4	5	.49	49 1.74	3.818	9	.49	123 36 14.67	10°.847
82	β^1 Scorpis	2	3	.52	58 17.19	3.478	5	.51	109 28 3.33	10°.175
83	δ Ophiuchi	3	1	.54	16 7 54.17	3.136	1	.54	93 22 36.29	9°.551
84	α Scorpis	1	4	.57	21 51.96	3.669	5	.56	116 9 25.83	8°.354
85	ζ Herculis	3	6	.56	36 38.95	2.263	5	.56	58 10 23.10	6°.682
86	κ Ophiuchi	4	7	.57	51 50.76	2.834	8	.57	80 25 56.55	5°.854
87	α^1 Herculis	3	6	.57	17 9 2.36	2.731	7	.57	75 28 4.76	4°.381
88	θ Ophiuchi	3	6	.59	14 27.43	3.677	7	.57	114 52 28.67	3°.937
89	α Ophiuchi	2	5	.58	29 13.49	2.779	6	.57	77 20 57.77	2°.883
90	μ Herculis	4	6	.59	41 38.60	2.944	5	.59	62 12 23.13	2°.343
91	B.A.C. 6,076	7	2	.47	51 49.81	3.951	2	.47	123 23 45.99	+0°.715
92	μ Sagittarii	4	6	.63	18 6 24.50	2.584	4	.64	111 5 18.55	-0°.554
93	σ Octantis	5	13	.40	19 15.55	109°.772	3	.8	179 16 37.83	1°.961
94	α Lyrae	1	4	.62	32 46.47	2.030	5	.59	51 19 45.02	3°.139
95	β Lyrae	4	4	.63	45 32.40	2.212	3	.63	56 46 44.29	3°.930
96	σ Sagittarii	3	1	.56	47 38.58	3.722	.....	.....	.....	.....
97	ζ Aquilæ	3	8	.62	59 45.34	2.752	8	.62	76 19 5.09	5°.102
98	ω Aquilæ	5	4	.65	19 12 2.56	2.814	4	.65	78 37 30.40	6°.223
99	δ Aquilæ	3	1	.70	19 17.66	3.023	4	.67	87 7 43.85	6°.908

No.	Name of Star.	Mag.	Number of Obs. of R.A.	Fraction of the Year for Mean.	Mean R.A. 1877. Jan. 1.	Pre-cession in R.A.	Number of Obs. of N.P.D.	Fraction of the Year for Mean.	Mean N.P.D. 1877. Jan. 1.	Pre-cession in N.P.D.
100	δ^2 Sagittarii	4 $\frac{1}{4}$	5	.70	19 29 13.23	+3° 655	6	.69	115 9 10.26	-7° 634
101	γ Aquilæ	3	8	.68	40 24 46	2° 853	8	.67	79 41 5.80	8° 509
102	α Aquilæ	1 $\frac{1}{2}$	7	.68	44 46.86	2° 928	7	.70	81 27 18.43	9° 234
103	β Aquilæ	4	6	.70	49 16.20	2° 947	8	.68	83 53 56.46	8° 735
104	α^2 Capricorni	3	2	.72	20 11 13.75	3° 331	3	.71	102 55 28.51	10° 868
105	α Pavonis	2	1	.74	16 54.54	4° 791	1	.70	157 8 0.23	11° 181
106	ρ Capricorni	5	4	.72	20 21 50.50	3° 425	4	.72	108 13 7.88	11° 627
107	α Cygni	1	2	.75	37 14.26	2° 042	2	.74	45 9 30.44	12° 705
108	32 Vulpeculae	4 $\frac{1}{4}$	4	.73	49 18.94	2° 554	3	.72	62 24 34.06	13° 505
109	61 1 Cygni	5 $\frac{1}{4}$	4	.75	21 1 23.20	2° 673	4	.75	51 51 12.33	17° 481
110	ζ Cygni	3	4	.73	7 42.09	2° 548	3	.72	60 16 35.16	14° 581
111	B.A.C. 7,475	6	1	.65	24 47.97	3° 646	1	.65	124 29 4.67	15° 629
112	β Aquarii	3	4	.77	25 4.97	3° 161	5	.77	96 6 40.69	15° 646
113	ϵ Pegasi	2 $\frac{1}{2}$	7	.74	38 8.64	2° 948	8	.75	80 41 17.28	16° 336
114	16 Pegasi	5 $\frac{1}{4}$	4	.73	47 27.92	2° 727	5	.74	64 39 10.88	16° 785
115	α Aquarii	3	3	.81	59 27.88	3° 080	4	.77	90 55 0.23	17° 324
116	α Gruis	2	2	.80	22 0 28.50	3° 811	2	.80	90 54 18.36	17° 209
117	B.A.C. 7,702	6 $\frac{1}{4}$	2	.64	1 13.34	3° 528	3	.64	124 38 29.81	17° 420
118	Anonymous	7	1	.65	3 44.37	3° 520	1	.65	124 37 2.64	17° 529
119	θ Aquarii	4 $\frac{1}{4}$	4	.80	10 20.51	3° 169	5	.76	98 23 42.03	17° 773
120	50 Aquarii	6	4	.80	17 51.70	3° 217	4	.80	104 9 8.18	18° 096
121	σ Aquarii	5	5	.80	24 8.24	3° 181	4	.80	101 18 24.44	18° 323
122	η Aquarii	4	3	.80	29 2.11	3° 082	2	.80	90 45 2.63	18° 436
123	64 Aquarii	6 $\frac{1}{4}$	7	.78	32 47.64	3 166	7	.78	100 40 2.94	18° 620
124	ζ Pegasi	3	3	.80	35 19.54	2° 987	3	.80	79 48 39.27	18° 702
125	B.A.C. 7,930	6	1	.85	38 47.62	3° 297	2	.85	115 52 57.91	18° 809
126	70 Aquarii	6	12	.75	42 1.84	3° 160	12	.75	101 11 16.58	18° 905
127	74 Aquarii	6	10	.62	46 59.77	3° 172	15	.62	102 16 12.21	19° 045
128	B.A.C. 7,980	3	1	.85	48 7.33	3° 194	1	.85	106 28 28.88	19° 076
129	α Piscis Australis	1	3	.84	50 51.14	3° 326	2	.85	120 16 24.89	18° 968
130	B.A.C. 8,004	7	3	.69	53 6.51	3° 166	4	.69	103 43 46.03	19° 206
131	α Pagasi	2	5	.80	58 37.98	2° 684	4	.84	75 27 22.86	19° 320
132	δ^1 Aquarii	6	13	.62	58 44.74	3° 124	15	.61	98 21 25.73	19° 342
133	Weisse 1,232	8	1	.84	59 27.90	3° 141	1	.84	101 6 5.60	19° 359
134	Weisse 1,241	7	6	.76	59 51.41	3° 135	7	.76	100 16 5.18	19° 367
135	Weisse 57	8	1	.82	23 5 33.79	3° 142	1	.82	102 36 3.49	19° 491
136	Weisse 76	7	25	.76	6 33.86	3° 128	25	.76	100 14 18.83	19° 512
137	B.A.C. 8,085	5	2	.85	7 57.14	3° 108	2	.85	96 42 40.40	19° 539
138	Weisse 123	7	1	.84	8 15.17	3° 132	1	.84	101 21 27.08	19° 545
139	γ Piscium	4	7	.80	10 47.32	3° 106	8	.83	87 23 23.53	19° 584
140	Weisse 185	7	1	.85	23 11 14.83	3° 134	1	.85	102 23 5.80	19° 602
141	ψ^2 Aquarii	5	17	.67	11 30.51	3° 121	22	.65	99 51 13.55	19° 607
142	Weisse 226	5	1	.84	12 33.42	3° 122	1	.84	100 16 59.93	19° 626
143	Weisse 228	8	1	.87	12 37.15	3° 135	1	.87	102 50 35.68	19° 627
144	97 Aquarii	6	4	.77	16 12.17	3° 144	7	.75	105 42 52.30	19° 689
145	Weisse 309	8	3	.85	16 37.56	3° 143	3	.85	101 26 52.89	19° 696
146	Weisse 315	8	3	.84	16 54.47	3° 117	3	.84	100 3 35.22	19° 701
147	Anonymous	6	1	.65	17 8.55	3° 137	1	.65	104 41 27.06	19° 705
148	Weisse 377	9	...	...	.....	3° 116	1	.87	100 42 39.72	19° 753
149	κ Piscium	5 $\frac{1}{4}$	6	.84	20 37.62	3° 075	6	.84	89 24 4.68	19° 639
150	Weisse 394	7	6	.69	21 1.82	3° 127	7	.69	103 36 20.28	19° 765
151	Weisse 402	7	1	.85	21 40.95	3° 120	1	.85	102 7 35.14	19° 775
152	Weisse 427	7	2	.72	22 38.88	3° 110	2	.72	99 56 36.03	19° 788
153	B.A.C. 8,199	7	5	.69	25 49.65	3° 115	9	.68	102 12 21.52	19° 832
154	Weisse 497	7	5	.85	26 3.40	3° 117	5	.85	101 40 40.81	19° 834
155	Weisse 571	8	1	.85	29 5.81	3° 108	1	.85	101 14 6.11	19° 872
156	Weisse 586	7 $\frac{1}{2}$	2	.84	29 39.40	3° 102	3	.85	99 26 43.52	19° 878
157	B.A.C. 8,221	6	9	.69	31 16.64	3° 113	9	.69	103 44 29.86	19° 897

40 *Mean Right Ascensions and North Polar Distances of Stars*

No.	Name of Star.	Mag.	Number of Obs. of R.A.	Fraction of the Year for Mean.	Mean R.A. 1877. Jan. 1.	Pre- cession in R.A.	Number of Obs. of N.P.D.		Mean N.P.D. 1877. Jan. 1.	Pre- cession in N.P.D.
							h.	m.	s.	s.
158	Weisse 629	7	2	.85	23 31 51.38	+ 3°099	2	...	.85	99 18 30.52
159	ι Piscium	4½	7	.80	33 37.88	3°084	7	...	.81	85 2 26.11
160	B.A.C. 8,239	6	12	.61	34 46.72	3°104	16	...	.60	102 21 45.09
161	B.A.C. 8,266	6	18	.65	40 55.64	3°097	25	...	.64	102 35 28.17
162	δ Sculptoris	5	8	.81	42 31.02	3°137	7	...	.80	118 48 37.15
163	B.A.C. 8,285	6	6	.62	43 53.93	3°090	13	...	.61	100 39 38.38
164	Weisse 985	7	13	.61	49 26.28	3°087	15	...	.61	103 50 4.92
165	B.A.C. 8,334	5	2	.87	53 30.79	3°158	2	...	.87	156 15 40.31
166	ω Piscium	4½	3	.87	53 59.73	3°078	...	...	...	.....
167	B.A.C. 8,346	5	5	.86	55 31.23	3°074	3	...	.85	93 42 44.22

SYDNEY OBSERVATORY.

MEAN RIGHT ASCENSIONS
AND
NORTH POLAR DISTANCES,
REDUCED TO JANUARY 1, 1878.

STAR.	DATE.	R.A. AT OBSERVATION.	CORRECTION TO JAN. 1.	MEAN R.A. JAN. 1.	TABULAR R.A.	N.P.D. AT OBSERVATION.	CORRECTION TO JAN. 1.	MEAN N.P.D. JAN. 1.	TABULAR N.P.D.	Magnitude.
B.A.C. 2	Nov. 25 28	h. m. s. 0 1 55.78 55.91	s. 4.45 4.41	s. 51.33 51.50	s. 51.42	° ' " 124 12 17.04 14.13	" 15.81 15.43	" 32.85 29.56	" 31.21	6 39.70
α Andromedæ	Nov. 4 7 12 13 14 19	0 2 9.13 9.00 9.16 8.87 9.05	4.14 4.11 4.10 4.09 4.05	4.99 4.89 5.06 4.78 5.00		61 34 26.35 23.76 25.62 24.64 24.85 23.57	33.52 38.80 34.22 34.29 34.37 34.66	59.87 57.56 59.84 58.93 59.22 58.23	58.94 59.53	1
B.A.C. 24	Nov. 28	0 5 36.37	4.44	31.93	32.25	125 48 39.23	15.10	54.33	56.20	5½
γ Pegasi	Nov. 7 15	0 6 61.42 61.33	4.19 4.16	57.23 57.17		75 29 11.46 10.76	31.10 31.23	42.56 41.99		2
B.A.C. 37	Nov. 27	0 8 53.08	4.46	48.62	49.66	125 34 40.56	15.44	56.00	50.70	6
B.A.C. 77	Nov. 21 27	0 17 10.90 10.70	4.48 4.42	6.42 6.28		121 42 21.22 30.24	17.75 16.91	38.97 47.15		6½
β Hydri	S.P. S.P. S.P. S.P. S.P. Nov. 12	May 1 0 19 18.27 18.74 0.89 18.98 0.53 19.51 20.25 0.66 19.59 20.45 0.76 19.69 13 28.06 8.82 19.24 14 28.59 8.74 19.85 19 29.09 8.34 19.75 25 27.43 7.83 19.60				167 55 68.12 67.71 61.06 58.83 29.73 61.65 77.69 76.78 81.66 78.41 80.03	21.86 24.23 25.81 88.56 91.63 86.96 9.06 8.86 90.52 7.93 6.99	89.98 91.94 86.87 88.56 91.63 86.96 85.84 90.52 86.34 87.02	S.P. S.P. S.P. S.P. S.P. S.P. S.P. S.P. S.P. S.P. S.P. S.P.	3
					19.61	19.14			88.57 92.43	

42 *Mean Right Ascensions and North Polar Distances of Stars*

STAR.	DATE.	R.A. AT OBSERVATION.	CORRECTION TO JAN. 1.	MEAN R.A. JAN. 1.	TABULAR R.A.	N.P.D. AT OBSERVATION.	CORRECTION TO JAN. 1.	MEAN N.P.D. JAN. 1.	TABULAR N.P.D.	MAGNITUDE.
B.A.C. 103 ...	Nov. 21	h. m. s. 0 21 57.43	s. 4.54	s. 52.89	s. 52.79	° ' " 123 40 26.02	" " 17.38	" " 43.40	" " 44.44	5
12 Ceti	Nov. 21 27 28	0 23 53.17 52.98 53.04	4.25 4.21 4.20	48.92 48.77 48.84		94 37 31.42 28.54	25.52 25.44	56.94 53.98		6
B.A.C. 135 ...	Nov. 21 27 28	0 27 43.47 43.28 43.17	4.50 4.41 4.41	38.97 38.87 38.76		120 13 32.92 30.69	17.72 17.58	50.64 48.27		5½
B.A.C. 136 ...	Nov. 25 26	0 27 49.51 49.30	4.51 4.50	45.00 44.80		125 39 11.76 12.00	16.45 16.30	28.21 28.30		6
B.A.C. 140 ...	Nov. 7 12 13 14 19	0 28 19.76 19.20 18.98	7.01 6.95 6.67	12.75 12.25 12.31		161 56 7.50 10.67 10.16 10.77 11.26	12.00 10.84 10.62 10.41 9.41	19.50 21.51 20.78 21.18 20.67		5½
β Ceti	Nov. 13 19 21 25 26 27 28 Dec. 3	0 37 32.39 32.45 32.30 32.14 32.05 32.19 32.22 32.22	4.45 4.41 4.39 4.36 4.35 4.34 4.34 4.27	27.94 28.04 27.91 27.78 27.70 27.85 27.88 27.95		108 39 1.06 1.59	23.23 22.44	24.29 24.03		2½
B.A.C. 240 ...	Nov. 25 26 Dec. 3	0 48 16.61 16.64 16.40	4.51 4.50 4.41	12.10 12.14 11.99		122 59 32.11 31.52 30.37	17.89 17.74 16.66	50.00 49.26 47.03		6½
B.A.C. 272 ...	Nov. 21 26	0 52 48.13 48.16	4.51 4.47	43.62 43.69		120 0 43.25	18.67	61.92		5
				43.66	43.76			61.92	62.84	

STAR.	DATE.	R.A. at Observation.	Correction to Jan. 1.	Mean R.A. Jan. 1.	Tabular R.A.	N.P.D. at Observation.	Correction to Jan. 1.	Mean N.P.D. Jan. 1.	Tabular N.P.D.	Magnitude.
B.A.C. 277 ...	Nov. 25 27	h. m. s. 0 53 43'05 42 95	s. 4'54 4'51	s. 38'51 38'44	s. 38'48 36'65	o, /, " 125 17 28'22 29'73	" 17'44 17'10	" 45'66 46'83	" 46'25 81'30	7
ε Piscium	Nov. 19 21 28 Dec. 3	0 56 41'00 40 94 40'99 41'02	4'41 4'40 4'36 4'32	36'59 36'54 36'63 36'70		82 45 33'85 32'61 32'41	29'42 29'11 28'90	63 27 61'72 61'31	62'10 62'38	4
B.A.C. 289 ...	Nov. 25	0 56 41'70	4'51	37'19	37'47	122 12 14'86	18'35	33'21	35'18	6
B.A.C. 296 ...	Nov. 26	0 57 32'71	4'47	28'24	26'93	120 10 31'57	18'77	50'34	25'78	6½
B.A.C. 306 ...	Nov. 27	0 58 51'63	4'51	47'12	46'63	124 10 57'75	17'54	75'29	86'58	7
B.A.C. 326 ...	Nov. 21 26 Dec. 3	1 1 60'01 60'03 59'78	4'56 4'51 4'43	55'45 55'52 55'35		123 27 39'14 37'11	18'00 16'84	57'14 53'95	55'55 58'32	7
B.A.C. 355 ...	Dec. 3	1 5 29'46	4'43	25'03	25'11	122 53 34'07	17'06	51'13	54'86	7
B.A.C. 362 ...	Nov. 26	1 6 41'99	4'49	37'50	38'49	121 26 36'91	18'64	55'55	49'16	6
B.A.C. 366 ...	Nov. 21	1 7 11'37	4'59	6'78	7'63					6
B.A.C. 385 ...	Dec. 3	1 10 32'33	4'46	27'87	27'34	124 47 20'10	16'65	36'75	34'02	6
B.A.C. 421 ...	Dec. 3	1 17 54'88	4'45	50'43	50'73	121 34 34'03	17'63	51'66	58'84	6
θ Ceti.....	Nov. 26 Dec. 17	1 17 59'93 59'79	4'44 4'28	55'49 55'51						8
B.A.C. 445 ...	Dec. 3 17	1 23 8'32 7'93	4'44 4'28	3'88 3'65		120 31 11'37 13'23	17'98 15'91	29'35 29'14	29'25 55'88	7
B.A.C. 468 ...	Dec. 6	1 25 54'65	4'42	50'23	50'21	120 36 36'63	17'51	54'14	58'72	6

44 *Mean Right Ascensions and North Polar Distances of Stars*

STAR	DATE.	R.A. AT OBSERVATION.	CORRECTION TO JAN. 1.	MEAN R.A. JAN. 1.	TABULAR R.A.	N.P.D. AT OBSERVATION.	CORRECTION TO JAN. 1.	MEAN N.P.D. JAN. 1.	TABULAR N.P.D.	Magnitude.
α Eridani	Dec. 17	h. m. s. 1 33 14.91	s. 4.40	s. 10.51	s. 9.90	° ' " 147 51 15.27	" 9.54	" 24.81	" 24.20	1
ν Piscium	Nov. 26 Dec. 6 17	1 35 9.39 9.54 9.58	4.55 4.50 4.44	4.84 5.04 5.09		85 7 21.32 21.66 22.44	27.96 27.41 26.72	49.28 49.07 49.16		5
γ Arietis	Dec. 6	1 46 54.82	4.72	50.10	50.00	71 17 39.82	30.60	70.42	74.06	4½
β Arietis	Dec. 17	1 47 58.70	4.68	54.02	54.05	69.46 51.50	30.89	82.89	81.11	3
B.A.C. 627 ...	Dec. 6	1 55 52.25	4.46	47.79	48.32	120 35 2.66	17.67	20.33	18.40	6
B.A.C. 643 ...	Dec. 6 13	1 59 5.87 5.90	4.45 4.40	1.42 1.50		119 52 41.08 41.52	17.83 16.59	58.91 58.11		5½
				1.46	1.31			58.51	63.72	
15 Arietis	Dec. 6	2 3 56.84	4.85	51.99	51.62					6
B.A.C. 688 ...	Dec. 13 18 19	2 7 36.69 36.43 36.71	4.40 4.34 4.33	32.29 32.09 32.38		121 17 31.02 34.95 33.29	16.17 15.31 15.16	47.19 50.26 48.45		5
				32.25	31.91			48.63	52.18	
67 Ceti	Dec. 13					96 58 45.85	22.52	68.37	67.34	6
B.A.C. 713 ...	Dec. 19	2 12 14.31	4.31	10.00	10.89	126 32 46.17	13.80	59.97	68.08	6
B.A.C. 742 ...	Dec. 13 19 20	2 17 59.41 59.29	4.35 4.34	55.06 54.95		120 25 0.37 1.18 0.37	16.29 15.22 15.06	16.66 16.40 15.43		6
				55.01	53.26			16.16	24.42.84	
ξ^2 Ceti	Dec. 13 19 20 30	2 21 45.12 45.18 45.15 45.04	4.75 4.72 4.71 4.64	40.37 40.46 40.44 40.40		82 4 51.08 51.71 50.74 51.30	26.02 25.68 25.62 24.97	77.10 77.39 76.36 76.27		4
				40.42	40.37			76.78	76.45	

STAR.	DATE.	R. A. at Observation.	Correction to Jan. 1.	Mean R.A. Jan. 1.	Tabular R.A.	N.P.D. at Observation.	Correction to Jan. 1.	Mean N.P.D. Jan. 1.	Tabular N.P.D.	Magnitude.
B.A.C. 788 ...	Dec. 19 20	h. m. s. 2 28 6°40 6°36	8. 4°84 4°88	8. 2°06 2°08	8. 2°05 1°24	° ' " 125 10 61°06 59°08	" 13°92 13°73	" 74°98 72°81	" 73°90 77°12	6
B.A.C. 803 ...	Dec. 18	2 30 58°29	4°87	53°92	58°37	120 34 23°35	15°13	38°48	47°22	6
B.A.C. 809 ...	Dec. 19 20	2 31 59°30 59°22	4°84 4°88	54°96 54°89		125 5 47°11 45°57	18°87 18°68	60°98 59°25		6
γ Ceti	Dec. 18 18 19 20	2 36 63°41 63°46 63°44	4°77 4°74 4°74	58°64 58°72 58°70		87 16 24°48 25°54 23°98 22°79	28°92 23°52 23°43 23°35	48°40 49°06 47°41 46°14	47°75 46°90	3
B.A.C. 873 ...	Dec. 18 20	2 42 41°49 41°39	4°35 4°33	37°14 37°06		126 3 22°99 21 49	13°68 13°28	36°67 34°77	35°72 36°58	6
B.A.C. 879 ...	Dec. 13	2 43 63°74	4°42	59°32	58°93	122 54 51°27	15°36	66°63	66°38	5
B.A.C. 923 ...	Dec. 18 20	2 51 58 85	4°36	54°49		125 51 58°24 58 09	18°56 18°14	71°80 71°23	71°52 79°08	6
α Ceti	Jan. 9 Dec. 13 18 19 20 30	2 55 55°64 59°01 58°97 58°93 58°92	1°31 4°84 4°84 4°88 4°78	54°83 54°17 54°13 54°10 54°14		86 28 18°04 0°68 2°76 3°93 1°57 2°96	6°72 23°04 22°64 22°56 22°48 21°68	24°76 23°72 25°40 26°49 24°05 24°59	24°84 24°48	3½
β Arietis	Jan. 9 Dec. 18 30 31	3 4 40°55 44°50 44°36 44°48	1°38 5°21 5°16 5°15	39°17 39°29 39°20 39°33		70 43 58°65 45°36 44°59 44°44	11°68 25°63 25°49	70°33 70°99 70°08 69°98	70°33 69°70	4
B.A.C. 1015 ...	Dec. 18	3 9 56°98	4°87	52°61	52°39	126 0 31°09	18°13	44°22	41°54	6

STAR.	DATE.	R.A. AT OBSERVATION.	CORRECTION TO JAN. 1.	MEAN R.A. JAN. 1.	TABULAR R.A.	N.P.D. AT OBSERVATION.	CORRECTION TO JAN. 1.	MEAN N.P.D. JAN. 1.	TABULAR N.P.D.	MAGNITUDE.
		h. m. s.	s.	s.	s.	° ' "	"	"	"	
B.A.C. 1019 ...	Dec. 31	3 11 14.09	4.29	9.82	9.73	121 16 31.38	11.48	42.86	48.00	6
B.A.C. 1042 ...	Dec. 18	3 14 34.71	4.38	30.33	29.72	125 26 37.10	13.12	50.22	49.78	6
ο Tauri	Dec. 18 30 31	3 18 19.95 19.85 19.79	5.04 4.99 5.00	14.91 14.86 14.79		81 23 45.66 45.10 46.00	22.21 21.43 21.43	67.87 66.53 67.43		4½
				14.85	15.05			67.28	64.11	
B.A.C. 1082 ...	Dec. 31	3 22 54.47	4.23	50.24	49.91	126 6 12.33	9.99	22.32	17.28	6
ε Eridani	Jan. 7 8 9 Dec. 30	3 27 12.53 12.39 12.39 15.66	1.51 1.50 1.49 4.68	11.02 10.89 10.90 10.98		99 52 18.33 17.76 18.92 4.92	3.13 3.01 2.90 15.88	21.46 20.77 21.82 20.80		3
				10.95	10.97			21.21	21.63	
B.A.C. 1103 ...	Dec. 31	3 29 44.82	4.32	40.50	40.08	122 16 48.74	10.51	59.25	69.50	6
B.A.C. 1121 ...	Dec. 30	3 32 14.68	4.35	10.33	9.18	120 18 45.54	10.82	56.36	21.06	6
B.A.C. 1150 ...	Dec. 31	3 37 28.44	4.32	24.12	23.61	122 19 33.81	10.14	43.95	45.14	5
η Tauri	Jan. 7 8 9 Dec. 31	3 40 15.59 15.70 15.53 19.47	1.62 1.61 1.61 5.54	13.97 14.09 13.92 13.93		66 16 14.09 12.98 14.10 4.24	12.52 12.53 12.53 23.30	26.61 25.51 26.63 27.54		3
				13.97	14.02			26.57	25.54	
γ¹ Eridani.....	Jan. 7 8 9 Dec. 31	3 52 21.90 21.88 21.83 25.00	1.64 1.63 1.61 4.67	20.26 20.25 20.22 20.33		103 51 22.41 23.91 23.69 13.01	2.42 2.27 2.14 13.27	24.83 26.18 25.83 26.28		2½
				20.27	20.19			25.78	25.26	
41 Tauri	Jan. 15	3 59 9.26	1.71	7.55	7.45	62 43 38.43	13.10	51.53	43.04	6
ο¹ Eridani	Jan. 7 8 9 15	4 5 56.39 56.21 56.30 56.27	1.67 1.66 1.66 1.62	54.72 54.55 54.64 54.65		97 9 23.16 23.65 23.62 23.47	4.18 4.06 3.94 3.25	27.3 27.71 27.56 26.72		4½
				54.64	54.56			27.33	25.76	

STAR.	DATE.	R.A. at Observation.	Correction to Jan. 1.	Mean R.A. Jan. 1.	Tabular R.A.	N.P.D. at Observation.	Correction to Jan. 1.	Mean N.P.D. Jan. 1.	Tabular N.P.D.	Magnitude.
φ Tauri	Jan. 15	h. m. s. 4 12 53.03	s. 1.80	s. 51.23	s. 51.08	° ' " 62 56 23.38	" " 12.64	" " 36.02	" " 27.54	5
B.A.C. 1333 ...	Jan. 8 9 23 29 30	4 13 18.63 18.47 18.91 17.99 18.26	1.86 1.85 1.65 1.53 1.52	16.77 16.62 16.66 16.46 16.74		124 5 51.49 51.67 54.76 56.61 54.77	1.59 1.80 4.23 5.03 5.14	49.90 49.87 50.53 51.58 49.63		3½
				16.65	16.68			50.30	49.72	
B.A.C. 1374 ...	Jan. 8 9 30	4 20 27.20 27.19 26.92	1.89 1.88 1.56	25.81 25.31 25.36		125 2 4.83 5.38 9.01	1.52 1.74 5.26	2.81 3.64 3.75		6
				25.33	30.32			3.73	7.64	
ε Tauri B.A.C. 1376.	Jan. 7 17 23 31	4 21 31.33 31.34 31.28 31.21	1.82 1.76 1.71 1.63	29.51 29.58 29.57 29.58		71 5 22.13 22.23 21.17 22.18	10.32 10.14 10.03 9.87	32.45 32.37 31.20 32.05		3½
				29.56	29.58			32.02	30.85	
B.A.C. 1411 ...	Jan. 8 23 29	4 26 52.36 52.05	2.01 1.76	50.35 50.29		131 26 14.84 18.49 20.98	2.29 5.28 6.20	12.55 13.21 14.78		6
				50.32	50.26			13.51	12.00	
α Tauri	Jan. 7 15 30 31 Feb. 1	4 28 56.94 57.15 56.93 56.86 56.80	1.84 1.80 1.66 1.65 1.63	55.10 55.35 55.27 55.21 55.17		73 44 8.40 6.54 8.97 8.68 7.95	9.52 9.29 8.88 8.84 8.82	17.92 15.83 17.85 17.52 16.77		1
				55.22	55.26			17.18	15.60	
B.A.C. 1471 ...	Jan. 23 24 29 30 Feb. 1	4 39 22.62 22.47 22.38 22.41 22.32	1.72 1.70 1.63 1.61 1.58	20.90 20.77 20.75 20.80 20.74		117 48 19.33 19.59 21.74 20.63 21.36	2.59 2.70 3.44 3.58 3.84	16.74 16.89 18.30 17.05 17.52		6
				20.79	20.53			17.30	*	
B.A.C. 1513 ...	Feb. 1	4 47 26.50	1.64	24.86	24.95	124 26 45.92	5.13	40.79	40.40	6
ζ Aurigæ	Jan. 23 24 30 31	4 49 5.03 4.90 5.03 5.01	2.04 2.04 1.97 1.95	2.99 2.86 3.06 3.06		57 1 32.38 32.13 31.09 31.88	13.04 13.10 13.32 13.35	45.42 45.23 44.41 45.18		3
				2.99	2.96			45.06	44.71	

* See note at end of Introduction.

48 *Mean Right Ascensions and North Polar Distances of Stars*

STAR.	DATE.	R.A. AT OBSERVATION.	CORRECTION JAN. 1.	MEAN R.A. JAN. 1.	TABULAR R.A.	N.P.D. AT OBSERVATION.	CORRECTION JAN. 1.	MEAN N.P.D. JAN. 1.	TABULAR N.P.D.	MAGNITUDE.
ϵ Leporis	Jan. 18 24 28 29 30 31 Feb. 1	5 0 19.73 19.48 19.66 19.48 19.40 19.43 19.47	1.81 1.75 1.71 1.69 1.68 1.67 1.66	17.92 17.73 17.95 17.79 17.72 17.76 17.81		° ' " 112 32 18.03 " " 13-12 1.43 " " 14-43 2.04 " " 15-14 2.18 " " 12-97 2.83 " " 13-34 2.47 " " 15-38 2.60	0.89 1.43 2.04 2.18 10.64 10.87 12.78	12.64 11.69 12.39 12.96 10.64 12.78 12.00	" " 11.30	4
B.A.C. 1605 ...	Jan. 23 24 29 30 Feb. 1	5 5 9.25 9.23 9.10 9.07 8.95	2.14 2.12 2.00 1.96 1.91	7.11 7.11 7.10 7.11 7.04		145 8 63.18 62.55 62.14 61.61	6.04 7.06 7.26 7.62	57.14 55.49 54.88 53.99	55.38 59.04	6
α Aurigæ	Jan. 18	5 7 43.38	2.55	40.84	40.71	44 7 29.67	14.74	44.41	42.42	1
β Orionis	Jan. 24 28 29 30 31 Feb. 1 28	5 8 42.38 42.38 42.26 42.16 42.22 42.24 41.82	1.80 1.76 1.76 1.74 1.73 1.73 1.32	40.58 40.62 40.50 40.42 40.49 40.51 40.50		98 20 34.45 40.84 40.08 40.50 40.54 39.97 42.96	1.69 1.23 1.12 1.00 0.90 0.79 1.10	36.14 42.07 41.20 41.50 41.44 40.76 41.86	40.71 89.42	1
40'52 40.47										
B.A.C. 1679 ...	Jan. 18 Feb. 1	5 17 57.20 56.95	1.85 1.74	55.35 55.21		104 2 37.37 39.55	1.81 0.71	38.68 38.84	38.76 31.71	6
				55.28	55.15					
β Tauri	Jan. 29 31 Feb. 28	5 18 37.01 36.91 36.65	2.12 2.09 1.69	34.89 34.82 34.96		61 29 42.84 41.56 42.15	10.72 10.77 11.10	53.56 52.33 53.25	53.15 51.93	2
				34.89	34.87					
B.A.C. 1713 ...	Jan. 18 Feb. 1	5 22 32.55 32.29	1.90 1.75	30.65 30.54		116 41 18.59 19.42	0.84 3.43	17.75 15.99	16.87 27.32	6
				30.60	31.37					
δ Orionis	Jan. 28 Feb. 28	5 25 48.31 47.81	1.86 1.46	46.45 46.35		90 23 25.19 30.07	2.92 0.95	28.11 31.02	29.57 28.30	2
				46.40	46.45					

STAR.	DATE.	R.A. at Observation.	Correction to Jan. 1.	Mean R.A. Jan. 1.	Tabular R.A.	N.P.D. at Observation.	Correction to Jan. 1.	Mean N.P.D. Jan. 1.	Tabular N.P.D.	Magnitude.
		h. m. s.	s.	s.	s.	° ' "	"	"	"	
B.A.C. 1745 ...	Jan. 18 29 Feb. 12	5 27 24.65 24.61 24.22	2.05 1.88 1.60	22.60 22.73 22.62		132 23 37.38 40.20 43.35	2.74 5.28 7.74	34.64 34.92 35.61		6
				22.65	20.99			35.06	34.12	
B.A.C. 1781 ...	Jan. 18	5 32 17.29	1.99	15.30	14.38	125 8 22.58	1.82	20.76	18.92	6
α Columbae ...	Jan. 18 28 Feb. 12 28	5 35 15.99 15.84 15.55 15.28	1.97 1.87 1.62 1.28	13.92 13.97 13.93 13.94		124 8 26.59 27.45 33.23 33.71	1.62 3.85 6.44 8.13	24.97 23.60 26.79 25.53		2
				13.94	13.94			25.24	24.90	
α Orionis	Jan. 18 28 Feb. 12 18 22 28	5 48 35.88 35.82 36.01 35.82 35.79 35.67	2.05 2.01 1.87 1.81 1.76 1.65	33.83 33.81 34.14 34.01 34.03 34.02		82 36 58.90 59.99 62.93 60.81 60.44 62.21	4.84 4.15 3.85 3.09 2.96 2.78	63.74 64.14 66.28 63.40 63.40 64.99		1
				33.97	34.02			64.33	63.24	
B.A.C. 1917 ...	Jan. 18	5 52 10.96	2.31	8.65	9.12	142 39 51.19	1.99	49.20	48.58	6
B.A.C. 1922 ...	April 15 16					125 17 57.88 58.55	7.98 7.86	49.90 50.69		4
								50.30	55.90	
γ Orionis	Jan. 28 Feb. 21	6 0 38.31 38.38	2.14 1.91	36.17 36.47		75 13 4.37 4.39	5.37 4.86	9.74 9.25		4½
-				36.32	36.38			9.50	7.50	
B.A.C. 2027 ...	Feb. 25	6 11 16.70	1.55	15.15	15.45	119 44 61.60	7.61	53.99	53.30	6
B.A.C. 2034 ...	April 11					125 6 13.06	9.52	3.54	8.99	4½
μ Geminorum	Jan. 28 Feb. 18 19 21 22 25	6 15 37.01 37.01 36.96 36.90 36.85 36.79	2.21 2.13 2.12 2.09 2.08 2.06	34.80 34.88 34.84 34.81 34.77 34.74		67 25 20.54 26.48 26.88 27.27 27.16	6.55 6.57 6.58 6.60 6.63	33.09 33.05 33.46 33.87 33.79		3
				34.81	34.80			33.45	33.28	

50 *Mean Right Ascensions and North Polar Distances of Stars*

STAR.	DATE.	R. A. AT OBSERVATION.	CORRECTION TO JAN. 1.	MEAN R.A. JAN. 1.	TABULAR R.A.	N.P.D. AT OBSERVATION.	CORRECTION TO JAN. 1.	MEAN N.P.D. JAN. 1.	TABULAR N.P.D.	MAGNITUDE.
B.A.C. 2079 ...	April 11	h. m. s.	s.	s.	s.	° ' "	"	"	"	5½
α Argus	Feb. 18	6 21 16'36	1'71	14°65	14°73	126 38 51'76	10°26	41°50	42°56	1
B.A.C. 2109 ...	April 16					122 30 25'61	9°35	16°26	11°68	4½
B.A.C. 2158 ...	April 11 17					126 8 41'71 40'48	10°74 10°30	30°97 31°18		5
γ Geminorum..	Feb. 18 19 21 22 25 27	6 30 42'06 41'95 41'86 42'03 41'79 41'87	2'13 2'12 2'10 2'08 2'05 2'01	39°93 39'83 39'76 39'95 39'74 39'86	39°85 39°80	73 29 51'25 51'09 52'29 51'51 51'36 51'74	4°01 4°00 4°00 4°00 3°98 3°97	55°26 55°09 56°29 55°51 55°34 55°71	55°53 54°26	2½
α Canis Majoris	Feb. 9 19 21 22	6 39 48'23 47'88 47'94 47'92	1°95 1°83 1°79 1°79	46°28 46°05 46°15 46°13	46°15 46°29	106 33 7'45 9°13 7°82	4°72 4°97 5°08	2°73 4°16 2°74	3°21 0°25	1
B.A.C. 2225 ...	Feb. 26 27 Mar. 5 28	6 42 3'02 2'78	1'62 1'45	1°40 1°33	1°37 1°45	127 38 53'56 52'23 54'33 56'34	9°44 9°59 10°40 11°98	44°12 42°64 43°93 44°36	43°76 41°74	6
B.A.C. 2251 ...	Feb. 25 26 Mar. 4 5 28	6 45 48'36 48'66 48'45 48'32 47'91	1'68 1'66 1'55 1'52 1'02	46°68 47'00 46'90 46'89 46'89	46°87 46°68	121 34 2'59 2'86 3'66 2'84 5'47	8°43 8°59 9°37 9°49 10°99	54°16 54°27 54°29 53°35 54°48	54°11 54°04	5½
B.A.C. 2252 ...	April 11 15 16 17	6 46'26				124 13 38'36 37'00 38'32 39'01	11°36 11°16 11°10 11°02	27°00 26°44 27°22 27°99	27°16 38°92	5

52. *Mean Right Ascensions and North Polar Distances of Stars*

STAR.	DATE.	R.A. AT OBSERVATION.	CORRECTION TO JAN. 1.	MEAN R.A. JAN. 1.	TABULAR R.A.	N.P.D. AT OBSERVATION.	CORRECTION TO JAN. 1.	MEAN N.P.D. JAN. 1.	TABULAR N.P.D.	Magnitude.
α Canis Minoris	Mar. 11	<i>h. m. s.</i>	<i>s.</i>	<i>s.</i>	<i>s.</i>	<i>° ' "</i>	<i>"</i>	<i>"</i>	<i>"</i>	1
		7 32 56.84	2.01	54.83		84 27 52.78	2.58	50.20		
		56.83	1.96	54.87		54.72	2.66	52.06		
	April 9	56.72	1.90	54.82			53.28	2.64	50.64	
		56.33	1.57	54.76				50.97	50.94	
				54.82	54.98					
B.A.C. 2538 ...	Mar. 4	<i>h. m. s.</i>	<i>s.</i>	<i>s.</i>	<i>s.</i>	<i>° ' "</i>	<i>"</i>	<i>"</i>	<i>"</i>	6
		7 34 50.16	1.89	48.27		104 58 63.80	7.36	56.44		
		50.12	1.88	48.24		65.10	7.47	57.63		
	12					65.76	8.12	57.64		
		50.12	1.66	48.46		65.12	8.63	56.49		
		50.06	1.52	48.54		66.53	9.05	57.48		
				48.38	48.66			57.14	52.39	
β Geminor ...	Feb. 27	<i>h. m. s.</i>	<i>s.</i>	<i>s.</i>	<i>s.</i>	<i>° ' "</i>	<i>"</i>	<i>"</i>	<i>"</i>	2
		7 37 53.51	2.59	50.92		61.40 50.73	3.31	54.08		
		53.44	2.44	51.00		48.79	3.98	52.77		
	April 9	53.35	2.39	50.96		48.00	4.19	52.19		
		52.83	1.96	50.87		47.19	5.16	52.35		
				50.94	50.92			52.85	50.98	
B.A.C. 2568 ...	Mar. 4	<i>h. m. s.</i>	<i>s.</i>	<i>s.</i>	<i>s.</i>	<i>° ' "</i>	<i>"</i>	<i>"</i>	<i>"</i>	6
		7 39 25.16	1.75	28.41		127 54 50.83	11.12	39.71		
		24.89	1.43	28.46		52.27	12.46	39.81		
	12	24.92	1.23	28.69		53.69	13.40	40.29		
				28.52	24.79	54.01	14.23	39.73		
								39.89	35.20	
B.A.C. 2600 ...	Mar. 4	<i>h. m. s.</i>	<i>s.</i>	<i>s.</i>	<i>s.</i>	<i>° ' "</i>	<i>"</i>	<i>"</i>	<i>"</i>	6½
		7 43 57.92	1.81	56.11		121 18 59.58	10.38	49.20		
		57.87	1.79	56.08		60.75	10.55	50.20		
	12					62.91	11.60	51.31		
		57.74	1.53	56.21		62.30	12.46	49.84		
		57.59	1.36	56.23		63.50	13.25	50.25		
				56.16	56.80			50.16	40.44	
B.A.C. 2629 ...	Mar. 5	<i>h. m. s.</i>	<i>s.</i>	<i>s.</i>	<i>s.</i>	<i>° ' "</i>	<i>"</i>	<i>"</i>	<i>"</i>	5
		7 47 43.70	1.79	41.91		124 23 69.63	11.00	58.63		
		44.06	1.60	42.46		71.88	12.57	59.31		
	19	43.86	1.52	42.34		70.17	13.09	57.08		
		43.83	1.32	42.51		72.05	13.97	58.08		
		43.41	1.07	42.34		74.16	14.62	59.54		
				42.31	44.01			58.53	67.56	
6 Cancri	Mar. 11	<i>h. m. s.</i>	<i>s.</i>	<i>s.</i>	<i>s.</i>	<i>° ' "</i>	<i>"</i>	<i>"</i>	<i>"</i>	5½
		7 56 3.97	2.54	1.43		61 51 54.53	2.65	57.18		
		3.84	2.43	1.41		51.64	3.13	54.77		
	April 4	3.59	2.16	1.43		51.22	2.72	53.94		
				1.42	1.35			55.30	55.34	

STAR.	DATE.	R.A. AT OBSERVATION.	CORRECTION TO JAN. 1.	MEAN R.A. JAN. 1.	TABULAR R.A.	N.P.D. AT OBSERVATION.	CORRECTION TO JAN. 1.	MEAN N.P.D. JAN. 1.	TABULAR N.P.D.	MAGNITUDE.
B.A.C. 2696 ...	Mar. 12 15 28	h. m. s. 7 57 51.60 51.06	s. 1.49 1.07	s. 50.11 49.99	s. 50.05	143 48 61.53 63.18 61.88	° ' " 14.04 14.64 16.70	47.49 48.54 45.18	47.07 49.62	5½
15 Argus Navis	Mar. 11 12 19 29 April 3 4	8 2 22.61 22.64 22.09 22.36 22.29	1.83 1.71 1.53 1.44 1.42	20.78 20.93 20.56 20.92 20.87	49.11 20.81	113 57 25.15 24.48 24.61 23.63 24.45 25.19	10.69 10.83 11.68 12.48 12.75 12.80	14.46 13.65 12.98 11.15 11.70 12.39	12.72 13.60	3
B.A.C. 2769 ...	Mar. 12 20 29 April 3 4	8 7 45.36 45.25 45.15 44.94	1.80 1.66 1.58 1.57	43.56 43.59 43.57 43.37	43.52 43.55	105 25 27.84 28.02 29.57 28.62 27.83	9.37 10.09 10.65 10.85 10.88	18.47 17.93 18.92 17.77 16.95	18.01 19.40	5
B.A.C. 2774 ...	April 9 11 15 16	8 8 54.50	1.18	53.32	53.56	125 32 9.58 11.20 9.79 11.25	15.78 15.87 16.00 16.09	53.80 55.33 53.79 55.16	54.52 59.06	5
B.A.C. 2820 ...	Mar. 19 20 29	8 18 48.18 48.00 47.82	1.65 1.62 1.45	46.53 46.38 46.37	46.43 48.60	127 53 50.84 51.27 53.33	14.32 14.48 15.65	36.52 36.79 37.68	37.00 47.18	6
Lacaille 3298 ...	Mar. 22 23 April 2 3 4	8 18 49.33 49.07 49.09 49.09 49.07	1.62 1.49 1.47 1.47 1.45	47.71 47.58 47.62 47.62 47.63	47.43	118 34 53.66 53.18 54.46 54.28	18.33 14.46 14.47 14.58	40.33 38.72 39.99 39.75	39.70 75.12	7
B.A.C. 2843 ...	Mar. 19 20 April 2 3 4	8 22 23.89 23.81 23.64	1.72 1.70 1.44	22.17 22.11 22.20	22.16 18.90	121 16 30.19 28.91 31.98 31.55 32.27	13.63 13.48 15.08 15.12 15.19	16.56 15.43 16.95 16.43 17.08	16.49 *	6

* See note at end of Introduction.

STAR.	DATE.	R.A. AT OBSERVATION.	CORRECTION TO JAN. 1.	MEAN R.A. JAN. 1.	TUBULAR R.A.	N.P.D. AT OBSERVATION.	CORRECTION TO JAN. 1.	MEAN N.P.D. JAN. 1.	TUBULAR N.P.D.	Magnitude.
η Cancer	Mar. 11 22 April 2 3 4	h. m. s. 8 25 41.56 41.17 41.21 41.31	s. 2.52 2.22 2.20 2.18	s. 39.04 38.95 39.01 39.13	s.	° ' " 69 8 48.84 45.80 46.95 45.36 45.48	° ' " 1.48 1.00 0.50 0.46 0.42	° ' " 47.36 44.80 46.45 44.90 45.06	° ' " 45.71 45.20	6
B.A.C. 2929 ...	Mar. 20 22 29 April 2 3 4	8 34 16.61 16.61 16.35 16.29 16.57	1.95 1.83 1.77 1.75 1.74	14.66 14.78 14.58 14.54 14.83	102 2 52.17 52.88 55.40 56.56 54.05 14.68	10.34 10.49 10.91 11.10 11.14 14.95	10.34 10.49 10.91 11.10 11.14 14.95	41.83 42.39 44.49 45.46 42.91 43.25	43.39 43.40	5½
B.A.C. 2935 ...	April 9 15 16	8 35 21.11	1.36	19.75	124 52 51.31 51.09 52.10	16.74 17.10 17.22	16.74 17.10 17.22	34.57 33.99 34.88	34.48 40.48	5
B.A.C. 2960 ...	April 2 4	8 37 45.63 45.44	1.19 1.11	44.44 44.33 44.39	147 6 54.18 58.13	18.57 18.87	18.57 18.87	35.61 39.26	37.44 38.86	6
B.A.C. 2974 ...	Mar. 29 April 3	8 40 11.82 11.70	1.59 1.48	10.23 10.22 10.23	10.84					6
ϵ Hydri	Mar. 20 April 1	8 40 21.15 20.94	2.22 2.08	18.93 18.86 18.90	83 8 10.71 13.02	5.96 5.92	5.96 7.10	4.75 7.10	5.46	4
B.A.C. 3006 ...	Mar. 13 20 22 29 April 2 3 4	8 44 56.09 56.03 55.91 55.64 55.78 55.77	1.91 1.81 1.66 1.59 1.56 1.55	54.18 54.22 54.25 54.05 54.22 54.22	122 19 46.10 46.56 48.00 49.61 49.67 47.87 48.41	13.11 14.32 14.58 15.54 15.98 16.08 16.18	13.11 14.32 14.58 15.54 15.98 16.08 16.18	32.99 32.24 33.42 34.07 33.69 31.79 32.23	32.92 29.74	6
κ Cancer	Mar. 20 22 29 April 1 2 4	9 1 10.64 10.51 10.45	2.28 2.22 2.20	8.36 8.29 8.25	78 50 36.79 37.45 38.46 37.45 37.76 37.00	6.06 6.05 5.91 5.83 5.80 5.74	6.06 6.05 5.91 5.83 5.80 5.74	30.78 31.40 32.55 31.62 31.96 31.26	31.59 31.27	5

56 *Mean Right Ascensions and North Polar Distances of Stars*

STAR.	DATE.	R.A. AT OBSERVATION.	CORRECTION S JAN. 1.	MEAN R.A. JAN. 1.	TABULAR R.A.	N.P.D. AT OBSERVATION.	CORRECTION S JAN. 1.	MEAN N.P.D. JAN. 1.	TABULAR N.P.D.	Magnitude.
<i>l</i> Leonis	April 8 May 6 9	<i>h. m. s.</i> 10 42 53.17 52.91	2.57 2.31	50.60 50.60	<i>s.</i> 50.60	78 48 46.20 45.57 46.43	11.60 9.98 9.82	34.60 35.59 36.61	35.60 35.23	6
B.A.C. 3763 ...	April 30 May 3 6 7 9	10 53 30.37 30.22 30.15 30.21	1.99 1.94 1.91 1.86	28.38 28.28 28.24 28.35	<i>s.</i> 28.31	123 4 79.88 80.40 80.00 82.07 81.43	22.43 22.69 22.91 22.99 23.12	57.45 57.71 57.09 59.08 58.31	57.93 49.30	6
<i>x</i> Leonis	April 30 May 3 6 7	10 58 45.96 45.74 45.63	2.40 2.37 2.34	43.56 43.37 43.29	<i>s.</i> 43.41	82 0 30.69 32.17 30.73 32.12	12.13 11.96 11.79 11.74	18.56 20.21 18.94 20.38	19.52 18.50	4½
<i>g</i> Leonis	May 2 3 6 7 13	11 7 39.71 39.71 39.67 39.71	2.62 2.61 2.58 2.50	37.09 37.10 37.09 37.21	<i>s.</i> 37.12	68 48 37.06 40.42 39.06 43.03 37.96	8.41 8.31 8.08 7.93 7.40	28.65 32.11 31.03 35.10 30.56	31.49 29.75	2½
<i>δ</i> Crateris	May 2 3 6 8 13	11 13 16.77 16.67 16.71 16.78 16.62	2.23 2.22 2.20 2.17 2.13	14.54 14.45 14.51 14.61 14.49	<i>s.</i> 14.52	104 7 26.34 26.90 27.29 24.64 26.47	18.82 18.85 18.89 18.92 18.94	7.52 8.05 8.40 5.72 7.53	7.44 7.12	3½
<i>v</i> Leonis	May 1 2 6 7 14 20 21	11 30 44.63 44.59 44.54 44.27 44.52 44.47	2.45 2.44 2.40 2.34 2.28 2.27	42.18 42.15 42.14 41.93 42.24 42.20	<i>s.</i> 42.14	90 9 17.74 19.00 17.26 18.79 18.25 17.68 19.19	15.76 15.78 15.59 15.56 15.27 15.01 14.96	1.98 3.27 1.67 3.23 2.98 2.67 4.23	2.86 1.50	4½

STAR.	DATE.	R.A. AT OBSERVATION.	CORRECTION TO JAN. 1.	MEAN R.A. JAN. 1.	TABULAR R.A.	N.P.D. AT OBSERVATION.	CORRECTION TO JAN. 1.	MEAN N.P.D. JAN. 1.	TABULAR N.P.D.	Magnitude.
β Leonis	May 1	<i>h. m. s.</i>	<i>s.</i>	<i>s.</i>	<i>s.</i>	<i>° ' "</i>	<i>"</i>	<i>"</i>	<i>"</i>	$2\frac{1}{2}$
		11 42 52.83	2.67	50.16		74 44 59.76	12.11	47.65		
		2 52.85	2.66	50.19		58.74	12.08	46.68		
		6 52.73	2.64	50.09		62.26	11.65	50.61		
		7				61.39	11.55	49.84		
		8 52.76	2.62	50.14		58.46	11.46	47.00		
		9 52.76	2.60	50.16		59.18	11.02	48.16		
		10 52.70	2.60	50.10		59.77	10.92	48.85		
		13 52.77	2.58	50.19		58.38	10.75	47.63		
		14 52.72	2.57	50.15		58.66	10.40	48.26		
		20 52.69	2.51	50.18		58.97	10.32	48.65		
		21 52.72	2.50	50.22					48.27	45.72
				50.16	50.14					
ϵ Corvi	May 1	12 3 53.49	2.47	51.02	<i>s.</i>	111 56 49.34	21.32	28.02		4
		2 53.50	2.47	51.03		50.81	21.40	29.41		
		8 53.48	2.43	51.05		50.70	21.78	28.92		
		10 53.40	2.41	50.99		52.58	21.86	30.72		
		13 53.46	2.39	51.07		51.38	22.00	29.38		
		14 53.58	2.49	51.09		52.76	22.03	30.73		
		16 53.22	2.36	50.86						
		20 53.34	2.34	51.00		51.33	22.24	29.09		
		21 53.37	2.33	51.04		52.16	22.26	29.90		
		28 53.34	2.27	51.07						
		30 53.29	2.25	51.04		51.50	22.37	29.13		
		31 53.22	2.23	50.99		51.83	22.36	29.47		
				51.02	51.14				29.48	28.17
β Chamaeleontis	May 1	12 11 17.46	4.43	13.03	<i>s.</i>	168 38 28.74	24.67	4.07		5
		8 16.96	4.04	12.92		32.48	26.72	5.76		
		13 16.61	3.75	12.86		35.54	28.05	7.49		
		27 15.69	2.77	12.92		36.54	31.19	5.35		
		28 15.69	2.71	12.98		33.43	31.40	2.03		
	July 3	12.65	0.39	13.04						
		4 12.35	0.48	12.88						
		8 12.08	0.85	12.93						
	Nov. 12	S.P.	10.72	2.17	<i>s.</i>	S.P.	8.64	6.52	2.12	
		S.P.	11.14	1.63		S.P.	7.85	6.23	1.62	
						S.P.	10.08	5.59	4.49	
						S.P.	9.43	5.00	4.43	
				12.92	12.71				4.15	6.29
η Virginis	May 2	12 13 42.51	2.62	39.89	<i>s.</i>	89 59 37.37	17.07	20.30		$3\frac{1}{2}$
		10 42.54	2.58	39.96		39.07	16.74	22.33		
		14 42.41	2.55	39.86		37.19	16.54	20.65		
		20 42.33	2.51	39.82		37.12	16.27	20.85		
		21				39.20	16.22	22.98		
		22				37.46	16.17	21.29		
		31 42.23	2.43	39.80	34.76	15.66	19.10			
		July 9	41.98	2.08	34.38	13.37	20.96			
					39.87	39.81			21.06	19.33

STAR.	DATE.	R. A. AT OBSERVATION.	CORRECTION TO JAN. 1.	MEAN R.A. JAN. 1.	TABULAR R.A.	N.P.D. AT OBSERVATION.	CORRECTION TO JAN. 1.	MEAN N.P.D. JAN. 1.	TABULAR N.P.D.	MAGNITUDE.
B.A.C. 4183 ...	May 20 21 22 30	h. m. s. 12 18 58.60 58.47 58.44 58.50	s. 2.43 2.43 2.42 2.33	s. 56.17 56.04 56.02 56.17	s.	° ' " 124 80 63.56 64.25 64.22 63.90	25.20 25.27 25.35 25.83	38.36 38.98 38.87 38.07	" 38.57 61.76	6
B.A.C. 4214 ...	July 3 4 8 9	12 23 56.56 56.44 56.54 56.26	2.05 2.04 2.00 1.99	54.51 54.40 54.54 54.27		113 1 42.77 39.65 40.60 42.49	22.01 21.95 21.68 21.61	20.76 17.70 18.92 20.88	19.57 15.36	6
B.A.C. 4236 ...	July 3 4 8 9	12 28 8.41 8.31 8.26	1.89 1.83 1.81	6.52 6.48 6.45		133 59 64.47 63.65 62.71 63.53	28.61 28.57 28.35 28.28	35.86 35.08 34.36 35.25	35.14 29.52	6
β Corvi	May 1 8 10 14 16 20 21 22 27 28 30 31	12 28 1.29 1.30 1.45 1.43 1.48 1.29 1.31 1.29 1.25 1.20 1.08 1.27	2.60 2.57 2.56 2.54 2.53 2.51 2.50 2.49 2.46 2.45 2.43 2.42	58.60 58.73 58.89 58.89 58.95 58.78 58.81 58.80 58.79 58.75 58.65 58.85		112 43 39.58 41.80 43.95 41.81 41.13 43.95 44.05 41.18 42.77 43.15	21.51 22.02 22.13 22.34 22.61 22.66 22.68 22.80 22.85 22.86	18.07 19.78 21.82 19.47 18.52 21.29 21.37 18.38 19.92 20.29	19.89 18.95	2½
χ Virginis.....	May 13	12 32 59.58	2.60	56.98		97 19 47.66	18.87	28.79		5
γ ¹ Virginis ...	May 10 22 28 29 31	12 35 31.38	2.66	28.72		90 46 65.66 65.88 60.60 62.21 63.01	17.44 16.88 16.56 16.52 16.39	48.22 49.00 44.04 45.69 46.62	46.71 46.25	4
γ ² Virginis ...	May 16 27 30	12 35 31.45	2.64	28.81		90 46 70.70 68.41 68.46	17.17 16.61 16.44	53.53 51.79 52.02	52.45 51.06	3½

STAR.	DATE.	R.A. at Observation.			Correction to Jan. 1.	Mean R.A. Jan. 1.	Tabular R.A.	N.P.D. at Observation.			Correction to Jan. 1.	Mean N.P.D. Jan. 1.	Tabular N.P.D.	Magnitude.
γ Virginis mean	May 22	12 35	31°42'	2°61	28°81			°	'	"	"	"	"	4
	28		31°32'	2°57	28°75									
	29		31°28'	2°56	28°72									
	30		31°37'	2°56	28°81									
	31		31°31'	2°55	28°76									
	July	3	30°93'	2°27	28°66			90 46	65°54	14°43	51°11			
		4	31°04'	2°26	28°78				62°75	14°37	48°38			
		8	30°86'	2°22	28°64				64°06	14°13	49°93			
		9	30°93'	2°21	28°72				62°28	14°07	48°21			
					28°74	28°76				49°41	49°51			
α Canum Venaticorum.	May 10	12 50	22°59'	3°24	19°35			51 1	30°98	8°45	22°53			2½
	16		22°54'	3°19	19°35				27°11	7°31	19°80			
	22		22°32'	3°12	19°20				29°83	6°26	23°57			
	27		22°14'	3°06	19°08				24°88	5°45	19°43			
	28		22°16'	3°05	19°11				23°17	5°29	17°88			
	29								25°06	5°13	19°93			
	30		22°21'	3°02	19°19				27°32	5°00	22°82			
	July	3	21°77'	2°52	19°25				25°05	1°91	23°14			
		8	21°57'	2°43	19°14				25°08	1°81	23°27			
					19°21	19°10				21°37	20°48			
ϵ Virginis	May 22							94 53	34°51	18°39	16°12			4½
	27	13 3	40°79'	2°70	38°09				31°08	18°18	12°90			
	28		40°74'	2°69	38°05				31°94	18°14	13°80			
	30		40°72'	2°69	38°03				34°18	18°05	16°13			
	31		40°80'	2°68	38°12				34°49	18°00	16°49			
	June	5	40°71'	2°64	38°07				32°92	17°76	15°16			
		13	40°67'	2°59	38°08				33°73	17°35	16°38			
	July	4	40°42'	2°41	38°01				32°35	16°16	16°19			
		8	40°45'	2°37	38°08				30°89	15°92	14°97			
		9	40°38'	2°36	38°02				31°53	15°87	15°66			
					38°06	38°01				15°38	14°19			
α Virginis	May 27	13 18	48°75'	2°77	45°98			100 31	46°48	19°70	26°78			1
	28		48°81'	2°77	46°04				46°70	19°67	27°03			
	29		48°78'	2°77	46°01				48°04	19°65	28°39			
	June	5	48°68'	2°73	45°95				49°37	19°45	29°92			
		10	48°58'	2°70	45°88				47°16	19°29	27°87			
		13	48°66'	2°67	45°99				47°76	19°18	28°58			
		17	48°64'	2°65	45°99				46°44	19°02	27°42			
		18	48°74'	2°64	46°10				47°41	18°98	28°43			
					45°99	45°97				28°05	26°34			
ζ Virginis	May 27	13 28	31°48'	2°81	28°67			89 58	34°54	17°06	17°48			4
	28		31°49'	2°81	28°68				35°99	16°44	19°55			
	June	5	31°46'	2°78	28°68				34°87	16°10	18°77			
		10	31°41'	2°75	28°66									
		11	31°37'	2°74	28°63									
		13	31°40'	2°74	28°66									
					28°66	28°65				18°60	17°22			

STAR.	DATE.	R.A. AT OBSERVATION.	CORRECTION TO JAN. 1.	MEAN R.A. JAN. 1.	TABULAR R.A.	N.P.D. AT OBSERVATION.	CORRECTION TO JAN. 1.	MEAN N.P.D. JAN. 1.	TABULAR N.P.D.	MAGNITUDE.
B.A.C. 4541 ...	June 7 11 13 17 18	h. m. s. 18 30 5-34 5-29 5-41	s. 2-79 2-77 2-76	s. 2-55 2-52 2-65	s. 2-57 1-79	° ' " 115 52 43-90 43-74 44-11 44-08 43-69	" 23-47 23-55 23-58 23-61 23-63	" 20-43 20-19 20-53 20-47 20-06	" 20-34 30-08	6
B.A.C. 4601 ...	June 10 11 13 17 18	18 42 14-54 14-45 14-46 14-46	8-07 8-05 8-00 8-01	11-47 11-40 11-46 11-45		131 5 12-23 10-01 13-23 12-87 11-21	26-77 26-86 27-10 27-44 27-35	45-46 43-15 46-22 45-43 43-86	44-82 46-44	3½
η Boötis.....	June 5 11 13 20	18 48 55-48 55-45 55-37 55-42	2-92 2-88 2-87 2-80	52-56 52-57 52-50 52-62		70 59 38-01 34-21 36-72 35-38	11-37 10-58 10-39 9-49	26-64 23-13 26-33 25-89	25-62 24-20	3
τ Virginis	June 20	13 55 29-15	2-82	26-33	26-30	87 51 68-11	14-70	53-41	52-66	4½
B.A.C. 4686 ...	June 10 11 13 17 18	13 59 33-80 33-46 33-54 33-65	8-15 8-15 8-11 8-10	30-65 30-31 30-43 30-55		125 46 33-28 31-61 34-50 32-96 32-29	25-06 25-12 25-23 25-48 25-54	8-22 6-49 9-27 7-48 6-75	7-64 13-34	2½
B.A.C. 4722...	June 11	14 8 43-78	3-02	40-76	41-23	107 37 72-49	20-58	51-91	49-80	6
α Boötis.....	June 17 18 20	14 10 8-66 8-67 8-61	2-91 2-91 2-89	5-75 5-76 5-72		70 10 66-18	9-42	56-76 56-76	52-85	1
B.A.C. 4740 ...	June 10 11 13 17 18	14 12 8-77 8-76 8-74 8-83 8-89	3-12 3-11 3-11 3-09 3-08	5-65 5-65 5-68 5-74 5-81		115 15 74-64 72-82 74-18 73-62 71-18	22-29 22-31 22-38 22-46 22-45	52-35 50-51 51-75 51-06 48-73	50-88 14 54-12	6

STAR.	DATE.	R.A. at Observation.	Correction to Jan. 1.	Mean R.A. Jan 1.	Tabular R.A.	N.P.D. at Observation.	Correction to Jan. 1.	Mean N.P.D. Jan 1.	Tabular N.P.D.	Magnitude.
B.A.C. 4760 ...	June 10 11 17 18	h. m. s. 14 15 40'84 41'07 41'24 41'11	s. 3'43 3'41 3'37 3'36	s. 37'41 37'66 37'87 37'75	s.	° ' " 131 41 70'57 70'42 71'13 70'47	" 25'48 25'59 26'15 26'23	" 45'09 44'83 44'98 44'24	" 44'79	6
				37'67	35'29				43'56	
ρ Boötis.....	June 10 17 18 20 21 28	14 26 37'39 37'31 37'17 37'30 37'22 37'10	3'08 3'01 3'00 2'98 2'97 2'90	34'31 34'30 34'17 34'32 34'25 34'20		59 5 42'45 42'00 41'86 40'65 38'51 38'48	8'36 7'15 6'98 6'64 6'58 5'52	34'09 34'85 34'88 34'01 31'93 32'96	33'79	4
				34'26	34'34				32'00	
B.A.C. 4852 ...	June 13 14 17 19	14 36 15'44 15'45 15'42 15'44	3'43 3'43 3'41 3'40	12'01 12'02 12'01 12'04		124 38 73'44 74'86 75'20 73'51	23'39 23'45 23'64 23'77	50'05 51'41 51'56 49'74	50'69	5
				12'02	11'86				52'26	
ϵ^2 Boötis	June 14 19 20 21 28 Aug. 13 14	14 39 42'72 42'59 42'60 42'52 42'51 41'93 41'89	3'04 3'01 3'00 2'99 2'93 2'28 2'27	39'68 39'58 39'60 39'53 39'58 39'64 39'62		62 24 49'63 47'73 48'54 46'75 45'49 42'00	7'77 7'59 7'51 6'42 3'28 3'28	41'86 40'14 41'03 40'33 42'21 38'72	40'72	3
				39'60	39'53				38'20	
B.A.C. 4880 ...	June 11 13 17	14 40 41'08 40'82 40'94	3'31 3'30 3'29	37'77 37'52 37'66		115 34 50'37 53'80 51'87	21'26 21'31 21'43	29'11 32'49 30'44	30'68	5
				37'65	37'38				37'50	
α Librae	June 19 20 28 Aug. 13 14	14 44 11'12 11'04 11'05 10'48 10'44	3'18 3'19 3'16 2'68 2'66	7'94 7'85 7'89 7'80 7'78		105 32 20'15 23'76 21'21 21'20 18'26	18'84 18'82 18'64 16'74 16'69	1'31 4'94 2'57 4'46 1'57	2'97	3
				7'85	7'85				1'31	
ψ Boötis.....	June 21 July 16	14 59 16'10 15'97	3'05 2'79	13'05 13'18		62 34 41'76 37'38	7'67 4'15	34'09 33'23	33'66	5
				13'12	13'12				32'75	

STAR.	DATE.	R.A. AT OBSERVATION.	CORRECTION TO JAN. 1.	MEAN R.A. JAN. 1.	TABULAR R.A.	N.P.D. AT OBSERVATION.	CORRECTION TO JAN. 1.	MEAN N.P.D. JAN. 1.	TABULAR N.P.D.	MAGNITUDE.
B.A.C. 4973 ...	June 14 19 28 Aug. 13 14	<i>h. m. s.</i> 15 0 41.82 41.94 41.04 40.68	3.92 3.91 3.14 3.13	37.90 38.03 37.90 37.55	s. 37.85 37.69	° ' " 184 48 57.20 55.38 59.05 57.85 57.37	23.71 24.31 25.24 26.33 26.23	23.49 31.07 33.81 31.52 31.14	32.21 42.83	5
B.A.C. 5032 ...	June 14 28 July 17 Aug. 13 14	15 10 28.16 28.04 27.56 27.47	3.56 3.38 3.04 3.02	24.60 24.66 24.52 24.45	24.56 24.88	119 42 18.20 18.01 16.23 18.16 17.10	20.59 21.19 21.50 20.93 20.84	57.61 56.82 54.73 57.23 56.26	56.53 58.21	4½
β Librae	June 19 20 21	15 10 29.98 29.76 29.66	3.25 3.25 3.25	26.73 26.51 26.61	26.62 26.53	98 55 70.75 74.60	16.22 16.21	54.53 58.39	56.46 53.50	2½
B.A.C. 5118 ...	June 14 25 July 16 17 18 22	15 27 4.87 4.59 4.57 4.57 4.69	3.99 3.97 3.80 3.74	0.88 0.62 0.77 0.95	0.81 0.79	130 45 39.64 41.60 41.66 41.62 41.21	22.27 23.74 23.79 23.83 23.96	17.37 17.86 17.87 17.79 17.25	17.63 25.44	3
α Coronae	June 25 Aug. 14	15 29 34.51 33.81	3.11 2.45	31.40 31.36	31.38 31.39	62 52 34.83 27.08	6.99 1.43	27.84 25.65	26.75 25.09	2½
B.A.C. 5151 ...	July 16 17 18 22	15 31 13.25 13.47	3.55 3.51	9.70 9.96	9.83 9.98	119 22 49.18 50.15 50.38 48.49	20.25 20.26 20.26 20.29	28.93 29.89 30.12 28.20	29.29 30.51	4½
α Serpentis ...	June 25 Aug. 13 14	15 38 18.60 18.30 18.34	3.21 2.78 2.76	15.39 15.52 15.58	15.50 15.55	83 11 33.86 31.59 31.08	11.27 7.02 6.93	22.59 24.57 24.15	23.77 21.86	2½
B.A.C. 5202 ...	July 16 18 22	15 39 37.97	3.79	34.18	34.18 32.97	127 31 63.03 64.11 63.18	22.00 22.10 22.22	41.03 42.01 40.96	41.33 48.78	6

64 *Mean Right Ascensions and North Polar Distances of Stars*

STAR.	DATE.	R.A. AT OBSERVATION.	S CORRECTION JAN. 1.	MEAN R.A. JAN. 1.	TABULAR R.A.	N.P.D. AT OBSERVATION.	S CORRECTION TO JAN. 1.	MEAN N.P.D. JAN. 1.	TABULAR N.P.D.	MAGNITUDE.
κ Ophiuchi ...	July 19 22 29 Aug. 1 5 7 9 23	16 51 56°84 56°88 56°98 57°07 56°79 56°77 56°83 56°63	3°34 3°32 3°28 3°24 3°20 3°18 3°14 2°96	53°50 53°56 53°70 53°83 53°59 53°59 53°69 53°67		0 °' " 80 26 9°10	4°81 6°91 6°61 5°29 7°53 5°88 5°92	4°29 3°63 3°31 2°92 2°74 2°57 1°59		4
				53°64	53°56				3°70	1 88
α^1 Herculis ...	July 29 30 Aug. 5 9 16 22	17 9 8°31 8°28 8°27 8°16 8°18 8°11	3°26 3°24 3°19 3°15 3°07 2°97	5°05 5°04 5°08 5°01 5°11 5°14		75 28 11°57 11°77 10°03 10°24 7°78	1°55 1°41 0°69 0°25 0°87	10°02 10°36 9°34 9°99 8°65		3½
				5°07	5°08				9°67	9°65
θ Ophiuchi ...	July 29 30 Aug. 5 8 9 16 22 23	17 14 35°23 35°13 35°04 35°09 35°08 34°90 34°94 34°86	4°08 4°07 4°03 4°00 3°98 3°91 3°82 3°81	31°15 31°06 31°01 31°09 31°10 30°99 31°12 31°05		114 52 45°30 44°17 42°38 43°27 45°67 46°78 43°97 45°27	11°13 11°14 11°20 11°23 11°23 11°27 11°26 12°25	34°17 33°03 31°18 32°04 31°44 35°51 32°71 33°02		3½
				31°07	31°08				33°26	32°17
δ Ophiuchi ...	Aug. 8 9	17 19 38°03 38°04	4°19 4°18	33°84 33°86		119°45 29°57	12°22 17°35			4
				33°85	33°76				17°35	15°66
α Ophiuchi ...	July 29 30 Aug. 5 8 9 12 15 16 22	17 29 19°68 19°65 19°57 19°54 19°59 19°50 19°42 19°46 19°43	3°36 3°35 3°32 3°27 3°26 3°23 3°19 3°18 3°10	16°32 16°30 16°25 16°27 16°33 16°27 16°23 16°28 16°33		77 20 60°77 58°65 58°96 61°62 61°84 60°14 60°39 60°01	0°74 0°00 0°36 0°46 0°78 1°07 1°17 1°69	60°03 58°65 59°32 62°08 62°12 61°21 61°56 61°70		2
				16°29	16°24				60°83	58°80

STAR.	DATE.	R.A. at Observation.	Correction to Jan. 1.	Mean R.A. Jan. 1.	Tabular R.A.	N.P.D. at Observation.	Correction to Jan. 1.	Mean N.P.D. Jan. 1.	Tabular N.P.D.	Magnitude.
μ Herculis.....	July 30	h. m. s. 17 41 44.37	3.17	41.20		° ' "	"	"	"	4
	Aug. 5	44.14	3.12	41.02		21.18	3.70	24.88		
	8	44.19	3.07	41.12		19.86	4.20	24.06		
	12	44.08	3.03	41.05		21.35	4.80	26.15		
	15	43.95	2.99	40.96		20.95	5.22	26.17		
	16	43.93	2.95	40.98		22.29	5.36	27.65		
	20	43.89	2.90	40.99		19.20	5.87	25.07		
	22	43.94	2.87	41.07		18.06	6.09	24.15		
	26					18.37	6.51	24.88		
	27	43.81	2.77	41.04		18.54	6.62	25.16		
	28					19.70	6.69	26.39		
				41.05	41.04			25.51	24.99	
B.A.C. 6055 ...	July 30	17 47 58.70	5.13	53.57		134 19 19.88	12.32	7.56		6
	Aug. 5	58.44	5.07	53.37		20.81	12.93	7.88		
	8	58.43	5.04	53.39		19.38	13.20	6.18		
	12	58.19	4.99	53.20		20.06	13.54	6.52		
				53.38	52.08			7.04	11.85	
B.A.C. 6088 ...	July 30	17 54 35.50	4.21	31.29		112 46 36.26	6.78	29.48		6
	Aug. 5	35.27	4.19	31.08		36.85	6.99	29.86		
	8	35.26	4.16	31.10		36.75	6.85	29.90		
				31.16	30.66			29.75	36.74	
μ Sagittarii ...	Aug. 12	18 6 32.13	4.15	27.98		111 5 27.28	5.25	22.03		3½
	15	32.01	4.11	27.90		25.48	5.26	20.22		
	16	32.23	4.11	28.13		27.03	5.26	21.77		
	20	32.15	4.06	28.09		24.65	5.28	19.27		
	21	32.14	4.05	28.09		23.63	5.28	18.35		
	22	32.04	4.04	28.00		25.72	5.28	20.44		
	26	32.10	3.99	28.11		23.63	5.30	18.33		
	27	32.06	3.99	28.07		23.47	5.30	18.17		
	28	32.02	3.97	28.05		25.57	5.30	20.27		
	30	31.88	3.94	27.94		23.45	5.31	18.14		
	Sep. 18	31.66	3.64	28.02		24.66	5.32	19.84		
	20	31.56	3.61	27.95		26.51	5.32	21.19		
				28.03	27.95			19.80	20.24	
B.A.C. 6277 ...	Aug. 20	18 22 27.62	5.02	22.60		131 59 39.76	9.58	30.18		6
	21	27.56	5.00	22.56		42.28	9.67	32.61		
	22	27.65	5.00	22.65		38.91	9.75	29.16		
				22.60	22.82			30.65	36.41	
σ Octantis.....	Aug. 12	18 23 45.16	2.49.89	55.27		179 16 54.58	19.70	34.88		5½
	15	41.72	2.46.66	55.06		53.74	20.34	33.40		
	20	35.94	2.40.81	55.13		53.45	21.32	32.13		
	21					55.84	21.51	34.83		
	26	29.61	2.33.14	56.47		53.63	22.36	31.27		
	27					58.05	22.52	36.53		
	28	26.87	2.30.43	56.44		56.37	22.67	33.70		
	30	23.73	2.27.67	56.06		56.94	22.96	33.98		
	Sept. 18	22 55.61	1.58.65	56.96		58.62	24.59	34.08		
	20	22 50.89	1.55.41	55.48		57.53	24.63	32.90		
				55.86	57.26			33.62	38.87	
		18 20								

STAR.	DATE.	R.A. AT OBSERVATION.	S JAN. 1.	CORRECTION JAN. 1.	MEAN R.A. JAN. 1.	TABULAR R.A.	N.P.D. AT OBSERVATION.	CORRECTION TO JAN. 1.	MEAN N.P.D. JAN. 1.	TABULAR N.P.D.	MAGNITUDE.
B.A.C. 6330 ...	Sept. 18 20	h. m. s. 18 30 5°14 5°03	s. 4°88 4°82	s. 0°26 0°21	s. 0°24	1°05	° ' " 138 0 58°09 58°18	12°39 12°47	" 45°70 45°71	" 45°71	6½
α Lyrae	Aug. 15 20 21 22 26 27 28 30 Sept. 18 19 20	18 32 51°25 51°33 51°40 51°39 51°22 51°18 51°17 51°07 50°75 50°69 50°64	2°98 2°90 2°88 2°86 2°79 2°77 2°75 2°71 2°27 2°24 2°22	48°27 48°43 48°52 48°53 48°43 48°41 48°42 48°36 48°48 48°45 48°42	51 19 35°65 32°59 32°51 31°82 30°00 28°50 33°27 31°08 30°29 30°35 31°37	9°30 10°28 10°47 10°65 11°32 11°45 11°64 11°93 13°94 14°00 14°02	44°95 42°87 42°98 41°97 41°32 39°95 44°91 43°01 44°23 44°35 45°39	44°18	44°65	1	
B.A.C. 6415 ...	Sept. 12 16 18 19 20	18 44 52°57 52°45 52°47 52°69 52°53	4°00 3°93 3°90 3°89 3°86	48°57 48°52 48°57 48°80 48°67	112 3 47°69 49°77 48°19 48°13 48°81	2°01 2°07 2°10 2°11 2°13	45°68 47°70 46°09 46°02 46°68	46°43	46°72	6	
β¹ Lyrae	Aug. 15 21 26 27 28 30	18 45 37°56 37°77 37°47 37°46 37°46 37°58	3°18 3°05 2°97 2°96 2°93 2°90	34°43 34°72 34°50 34°50 34°53 34°68	56 46 32°93 29°31 29°43 28°23 31°27 26°96	9°26 10°40 11°26 11°42 11°58 11°88	42°19 39°71 40°69 39°65 42°85 38°84	40°66	40°94	3	
B.A.C. 6439 ...	Sept. 12 16 19 20	18 47 45°75 46°02 41°57 45°77	4°27 4°15 4°18 4°13	41°48 41°87 41°64 41°66	119 21 58°19 57°51 57°60 57°83	4°18 4°28 4°37 4°41	54°01 53°23 53°23 53°42	53°47	58°34	7	
ζ Aquilæ	Aug. 26 27 28 Oct. 4	18 59 51°56 51°54 51°56	3°41 3°40 3°39	48°15 48°14 48°17	76 18 50°33 51°22 55°32 48°04	8°69 8°80 8°92 11°04	59°02 60°02 64°24 59°08	60°59	59°46	3	
B.A.C. 6523 ...	Sept. 12 16 18 20	18 59 55°99 55°67 55°74	4°84 4°76 4°71	51°15 50°91 51°03	130 40 66°55 68°34 67°99 66°78	6°56 6°78 6°90 6°99	59°99 61°56 61°09 59°79	60°61	66°27	5	

Observed at the Sydney Observatory, 1878.

67

STAR.	DATE.	R.A. at Observation.	Correction to Jan. 1.	Mean R.A. Jan. 1.	Tabular R.A.	N.P.D. at Observations.	Correction to Jan. 1.	Mean N.P.D. Jan. 1.	Tabular N.P.D.	Magnitude.
α Aquilæ	Aug. 19 3	h. m. s. 19 12 8°94 8°80	s. 3°57 3°47	s. 5°37 5°33	s.	° ' " 78 37 16°53 13°45 11°09	" 8°25 9°54 11°61	" 23°78 22°99 22°60	" 23°12 23°98	5
	Oct. 4				5°33					
B.A.C. 6592 ...	Sept. 12 16 19 20	19 12 65°79 65°90 65°71	5°93 5°74 5°71	59°86 60°16 60°00	60°01	144 38 61°12 59°19 60°42 61°18	9°23 9°61 9°87 9°95	51°89 49°58 50°55 51°23	50°81	6
					60°21				52°38	
δ Aquilæ	Aug. 19 Sept. 12 16 19 20	19 19 24°57 24°45 24°32 24°21 24°30	8°77 8°52 8°47 8°48 8°41	20°80 20°93 20°85 20°78 20°89	20°85	87 7 31°90 28°50 27°97 29°67 29°85	7°27 9°00 9°17 9°28 9°30	39°17 37°50 37°14 38°05 38°65	38°28	3½
					20°73				37°38	
B.A.C. 6664 ...	Sept. 19	19 21 42°98	8°89	39°04		105 20 52°86 52°28	8°79 3°59	56 65 55 87		7
	Oct. 4			39°04	38°93			56 26	67 22	
B.A.C. 6668 ...	Sept. 12	19 22 40°62	4°01	36°61	36°13	105 36 25°10	3°85	28°95	37 60	7½
B.A.C. 6689 ...	Sept. 12 16	19 26 15°41 15°42	5°49 5°41	9°92 10°01		138 21 40°01 42°66 43°08 42°53	5°83 6°20 7°39 7°56	34°18 36°46 35°69 34°97		6
	Oct. 4 10			9°97	10°92			35 33	33 77	
λ² Sagittarii ...	Aug. 19 Sept. 12 13	19 29 21°50 21°23 20°58	4°60 4°34 3°87	16°90 16°89 16°71		115 9 2°31 2°40 3°11	1°61 1°56 0°70	3°92 3°96 3°81		4½
	Oct. 11			16°83	16°81			3°90	3°14	
γ Aquilæ	Sept. 13 16 19 25	19 40 30°97 30°96 30°94 30°60	3°46 3°40 3°36 3°02	27°51 27°56 27°58 27°58		70 40 44°96 46°27 46°95 44°66 43°65	12°76 12°96 13°15 13°45 13°80	57°72 59°23 60°10 58°11 57°45		8
	Oct. 10 11	30°65	3°01	27°64		46°05	13°81	59°86	58°75	58°50
				27°57	27°57					

68 *Mean Right Ascensions and North Polar Distances of Stars*

STAR.	DATE.	R.A. AT OBSERVATION.	CORRECTION TO JAN. 1.	MEAN R.A. JAN. 1.	TABULAR R.A.	N.P.D. AT OBSERVATION.	CORRECTION TO JAN. 1.	MEAN N.P.D. JAN. 1.	TABULAR N.P.D.	MAGNITUDE.
α Aquilæ (Altair)	Sept. 12 13 16 25 Oct. 10 11	h. m. s. 19 44 53.31 53.36 53.27 53.17 52.98 52.90	s. 3.51 3.50 3.46 3.38 3.12 3.07	49.80 49.86 49.81 49.84 49.86 49.83	s. 49.83	° ' " 81 26 57.19 55.35 56.59 57.62 58.85 57.16	" 12.59 12.67 12.87 13.38 13.60 13.67	" 69.78 68.02 69.46 70.95 67.45 70.83	" 69.42 69.67	1½
β Aquilæ	Sept. 11 12 13 16 Oct. 4 10 11	19 49 22.71 22.76 22.85 22.70 22.38 22.28	3.60 3.59 3.58 3.54 3.17 3.15	19.11 19.17 19.27 19.16 19.21 19.13	19.18 19.19	83 53 35.59 37.37 37.08 37.78 35.68 35.14 36.78	12.70 12.74 12.77 12.84 13.28 12.76 12.73	48.29 50.11 49.85 50.62 48.96 47.90 49.51	49.32 48.24	3½
B.A.C. 6864 ...	Oct. 4					113 4 11.70	4.06	15.76	17.24	6
B.A.C. 6889 ...	Sept. 12 16 25	19 57 51.48 51.55	4.14 4.18	47.84 47.87	47.86 47.87	111 39 18.96 17.34 18.54	5.70 5.57 5.24	24.66 22.91 23.78	23.78 26.42	6
α^1 Capricorni ...	Sept. 11 13	20 10 57.11 57.26	4.14 4.13	52.97 53.13	53.05 53.11	102 52 53.77 52.54	9.48 9.48	63.25 62.02	62.64 62.26	4
α^2 Capricorni ...	Sept. 23 25 Oct. 2 4 11	20 11 21.01 21.16 20.95 20.82	4.02 3.98 3.88 3.74	16.99 17.18 17.07 17.08	17.08 17.00	102 55 9.18 10.75 10.71 9.72 11.74	9.42 9.37 9.24 9.19 9.03	18.60 20.12 19.95 18.91 20.77	19.67 18.10	3
ρ Capricorni ...	Sept. 11 23 26 Oct. 11	20 21 58.43 58.18 58.38 58.00	4.34 4.22 4.17 3.95	54.09 53.96 54.21 54.05	54.08 53.92	108 12 47.55 50.36	9.23 8.21	56.78 58.57	57.68 56.14	5
B.A.C. 7058 ...	Sept. 23 25 26 Oct. 2	20 23 20.27 20.21 20.33 20.15	3.83 3.80 3.78 3.69	16.44 16.41 16.55 16.46	16.47 16.68	93 17 12.85 14.89 15.46 13.68	13.32 13.35 13.36 13.41	26.17 28.24 28.82 27.09	27.58 22.79	5

STAR.	DATE.	R.A. AT OBSERVATION.	CORRECTION TO JAN. 1.	MEAN R.A. JAN. 1.	TABULAR R.A.	N.P.D. AT OBSERVATION.	CORRECTION TO JAN. 1.	MEAN N.P.D. JAN. 1.	TABULAR N.P.D.	Magnitude.
α Cygni	Sept. 24 Oct. 2 4	h. m. s. 20 37 19:10 19:14 18:93	s. 2:82 2:64 2:59	s. 16:28 16:50 16:34	s.	° ' " 45 8 54:60 48:37 50:83	" 23:60 24:91 25:20	" 78:20 73:28 76:03	" 77:84 77:85	1
B.A.C. 7201 ...	Sept. 23 24 25 26 Oct. 2	20 41 21:79 21:74 21:93	3:96 3:95 3:93	17:83 17:79 18:00		95 28 12:12 10:82 10:10 11:17 10:95	14:35 14:34 14:36 14:37 14:37	26:47 25:16 24:46 25:54 25:32		4
B.A.C. 7239 ...	Sept. 23 24 25 Oct. 3	20 46 8:51 8:41 8:42 8:28	4:07 4:06 4:04 3:95	4:44 4:35 4:38 4:33		99 26 13:24 12:09 11:81 10:13	13:74 13:70 13:70 13:60	26:98 25:79 25:51 23:73		4½
32 Vulpeculae	Sept. 23 24 25 Oct. 2 3 16	20 49 25:02 24:85 24:80 24:78 24:61 24:44	3:30 3:29 3:27 3:16 3:15 2:91	21:72 21:56 21:53 21:62 21:46 21:53		62 23 59:74 61:64 59:86 58:42 56:39 55:41	21:99 22:16 21:54 23:13 23:24 24:28	81:73 83:80 81:40 81:55 79:63 79:69		4½
61 ¹ Cygni	Sept. 24 Oct. 1 2 3 16	21 1 29:03 29:07 29:13 29:04 28:77	3:15 3:03 3:02 2:99 2:73	25:88 26:04 26:11 26:05 26:04		51 59 33:09 30:82 32:91 31:60 25:89	24:12 25:31 25:45 25:61 27:14	57:21 56:13 58:36 57:21 53:03		5½
ζ Cygni	Oct. 1 2 3 16	21 7 47:89 47:80 47:83 47:54	3:26 3:24 3:22 3:01	44:63 44:56 44:64 44:53		60 15 56:33 58:46 55:79 55:00	24:49 24:62 24:74 26:03	80:82 83:08 80:53 81:03		3
B.A.C. 7445 ...	Sept. 24 26 Oct. 1 3 16	21 19 46:44 46:49 46:27 46:24	4:54 4:53 4:45 4:26	41:90 41:96 41:82 41:98		112 56 7:62 8:19 6:94 5:55 6:89	13:38 13:24 12:89 12:75 11:83	21:00 21:43 19:83 18:30 18:72		4
						41:92	42:15		19:86 17:84	

70 *Mean Right Ascensions and North Polar Distances of Stars*

STAR.	DATE.	R.A. AT OBSERVATION.	CORRECTION TO JAN. 1.	MEAN R.A. JAN. 1.	TABULAR R.A.	N.P.D. AT OBSERVATION.	CORRECTION TO JAN. 1.	MEAN N.P.D. JAN. 1.	TABULAR N.P.D.	MAGNITUDE.
B.A.C. 7475 ...	Sept. 24 26 Oct. 1 3 16	h. m. s. 21 24 56'67 56'58 56'46 56'36 56'37	s. 4'99 4'97 4'91 4'88 4'67	s. 51'68 51'61 51'55 51'48 51'70	s. 51'60	° ' " 124 28 40'21 41'69 39'96 42'28 52'33	" " 10'96 10'14 9'92 8'57 50'93	" " 51'17 51'83 49'88 50'85 56'12	"	6
<i>β</i> Aquarii	Oct. 14 15 Nov. 2	21 25 12'09 12'04 11'71	3'89 3'89 3'63	8'20 8'15 8'08	8'06	96 6 6'91 7'23 7'62	17'79 17'78 17'19	24'70 25'01 24'81 24'84	25'11	3
B.A.C. 7557 ...	Oct. 29 Nov. 2 5	21 37 45'09 44'92 44'74	4'45 4'39 4'34	40'64 40'53 40'40	40'52	123 34 44'54 45'50	8'64 8'44	53'18 53'94 53'56	54'00	4½
<i>ε</i> Pegasi	Sept. 26 Oct. 3 8 14 15 17	21 38 15'36 15'35 15'30 15'37 15'27 15'26	3'84 3'76 3'71 3'64 3'64 3'61	11'52 11'59 11'59 11'73 11'63 11'65	11'62	80 40 35'93 36'12 37'37 36'96 35 85	22'67 22'93 23'15 23'17 23'24	58'60 59'05 60'52 60'13 59'09	61'33	2½
16 Pegasi	Oct. 1 8 14 15 17 23 29 Nov. 2 5	21 47 34'18 34'27 34'22 34'14 34'04 34'01 34'02 33'86 33'74	3'58 3'49 3'42 3'41 3'37 3'29 3'18 3'13 3'08	30'60 30'78 30'80 30'73 30'67 30'72 30'84 30'73 30'66	30'72	64 38 27'77 27'67 27'03 24'99 27'00 25'32 26'12 26'13	25'85 26'73 27'35 27'43 27'62 28'04 28'49 28'55	53'62 54'40 54'38 52'42 54'62 53'36 54'61 54'68	54'01	5½
<i>α</i> Aquarii	Oct. 1 8 14 15	21 59 34'92 35'04 35'12 34'99	4'07 4'00 3'94 3'93	30'85 31'04 31'18 31'06	31'03	90 54 21'42 21'29 20'85 22'36	21'84 21'93 21'92 21'91	43'26 43'22 42'77 44'27	43'38	3
<i>α</i> Gruis	Oct. 17	22 0 36'97	5'38	31'59	32'25	137 32 53'47	8'10	61'57	62'39	2
B.A.C. 7702...	Oct. 29 Nov. 2 8	22 1 21'84 21'84	4'59 4'52	17'25 17'32	17'29	124 38 4'47 7'28	10'30 9'81	14'77 17'04	15'91	6½

* See note at end of Introduction.

STAR.	DATE.	R.A. at Observation.	Correction to Jan. 1.	Mean R.A. Jan. 1.	Tabular R.A.	N.P.D. at Observation.	Correction to Jan. 1.	Mean N.P.D. Jan. 1.	Tabular N.P.D.	Magnitude.									
θ Aquarii	Oct. 8 14 17 29	h. m. s. 22 10 27'82 27 80 27'61 27'64	s. 4'18 4'13 3'95 3'86	s. 28'64 23'67 23'66 23'78	s. 23'69 23'65	s., "	"	"	"	4½									
	Nov. 5																		
B.A.C. 7790 ...	Oct. 17 29	22 14 56'54 56'59	4'42 4'28	52'12 52'31		112 12 17'28	16'89	34'17		5									
				52'22	52'86			34'17	28'72										
B.A.C. 7795 ...	Oct. 8 23 Nov. 5	22 15 25'41 25'34 25'07	4'07 3'93 3'77	21'84 21'41 21'30	91 59 45'12 44'69	22'57 22'15	67'69 66'84	67'27	64'82	3									
				21'35	21'49														
B.A.C. 7828 ...	Oct. 8 17 22 23 29	22 21 63'56 63'49 63'39 63'19	5'88 5'16 5'13 5'02	58'18 58'33 58'26 58'17	134 6 52'06 54'17 52'42 54'04	12'72 11'24 10'49 10'35	64'78 65'41 62'91 64'39	64'37	67'24	4									
				58'24	58'52														
η Aquarii	Oct. 8 22 23 29 Nov. 5	22 29 9'17 9'30 9'14 9'01 9'00	4'11 3'99 3'98 3'91 3'83	5'06 5'31 5'16 5'10 5'17	90 44 20'38 25'06 22'10 23'80	23'91 23'82 23'80	44'29 48'88 45'90	46'89	45'00	4									
	8			5'17	5'13														
ζ Pegasi.....	Oct. 22 23 Nov. 8	22 35 26'49 26'50 26'36	3'84 3'84 3'66	22'65 22'66 22'70	79 47 53'02 51'25 54'12	26'99 27'01 26'32	80'01 78'26 80'44	79'57	78'39	3									
				22'67	22'56														
67 Aquarii.....	Oct. 8	22 36 56'49	4'25	52'24	51'88					6									
B.A.C. 7930 ...	Oct. 22 23	22 38 55'09 55'09	4'53 4'52	50'56 50'57	115 52 22'73 23'00	17'31 17'20	40'04 40'20	40'12	36'12	6									
				50'57	50'74														
B.A.C. 7980...	Oct. 22	22 48 14'71	4'33	10'38	10'57	106 27 49'00	17'68	66'68	67'32	3									

STAR.	DATE.	R.A. AT OBSERVATION.	CORRECTION TO JAN. 1.	MEAN R.A. JAN. 1.	TABULAR R.A.	N.P.D. AT OBSERVATION.	CORRECTION TO JAN. 1.	MEAN N.P.D. JAN. 1.	TABULAR N.P.D.	Magnitude.
α Piscis Australis.	Oct. 22	22 50 59.01	4.68	54°33'	54°28'	120 15 48.63	17°02	65°65	67°09'	1
	23	58.81	4.45	54°36'		50°10'	16°85	66°95		
	Nov. 8			54°35'		51°12'	14°97	66°09		
α Pegasi.....	Oct. 22	22 58 44.88	3°93	40°95	41°03'	75 26 36.04	28°97	65°01	62°91'	2
	Nov. 4	44.90	3°79	41°11		34°30	29°41	63°71		
	8	44.79	3°76	41°03		35°89	29°47	65°36		
B.A.C. 8085 ...	Oct. 22	23 8 4.83	4.23	0°60	0°44	96 42 1.66	24°52	26°18	20°90	5
γ Piscium	Nov. 4	23 10 54.63	4.00	50°63'	50°38'	87 22 37.24	26°67	63°91	63°71'	4½
	7	54.50	3.97	50°53'		36°87	26°60	63°47		
				50°53				63°69		
κ Piscium	Nov. 4	23 20 44.78	4.07	40°71	40°66	89 24 19.30	26°52	45°82	44°10'	5½
	7	44.78	4.05	40°73		17°54	26°41	43°95		
				40°72				44°89		
B.A.C. 8232 ...	Nov. 4	23 33 31.61	4.29	27°32	27°46	104 53 24.77	22°73	47°50	47°18'	5
	7					24°44	22°45	46°89		
	14					27°85	21°79	49°64		
δ Sculptoris ...	Nov. 12	23 42 38.82	4.50	34°32	34°10	118 47 59.11	18°20	77°31	77°12'	5
	14	38.82	4.47	34°35		60°70	17°92	78°62		
	15	38.79	4.46	34°33		56°92	17°81	74°73		
B.A.C. 8313 ...	Nov. 28	23 48 62.41	4.36	58°05	58°60	122 35 43.93	15°94	59°87	59°60	6½
ω Piscium	Nov. 4	23 53 6.84	4.18	2°66	2°79	83 48 14.62	29°00	43°62	44°05'	4½
	12	6.88	4.12	2°76		14°87	28°88	43°75		
	13					16°39	28°85	45°24		
	14	6.83	4.10	2°73		14°65	28°81	43°46		
	15	6.79	4.10	2°69		13°68	28°80	42°48		
	28	6.82	4.08	2°74				43°71		

SYDNEY OBSERVATORY.

CATALOGUE OF
CONCLUDED MEAN RIGHT ASCENSIONS
AND
MEAN NORTH POLAR DISTANCES,
FOR 1878, JANUARY 1,
OF
STARS OBSERVED IN THE YEAR 1878,
WITH THE ANNUAL PRECESSIONS.

No.	Name of Star.	Mag.	Number of Obs. of R.A.	Fraction of the Year for Mean.	Mean R.A. 1878, Jan. 1.	Pre- cession in R.A.	Number of Obs. of N.P.D.	Fraction of the Year for Mean.	Mean N.P.D. 1878, Jan. 1.	Pre- cession in N.P.D.
									h.	m	s.	s.	°	'	"	"
1	B.A.C. 2	6	2	.91	0 1 51.42	+3.065	2	.91	124 12 31.21	20.054
2	α Andromedæ	1	5	.86	2 4 94	3.088	6	.86	61 34 58.94	19.903
3	B.A.C. 24	5½	1	.91	5 31.93	3.049	1	.91	125 48 54.33	20.048
4	γ Pegasi	2	2	.86	6 57.20	3.083	2	.86	75 29 42.28	20.025
5	B.A.C. 37	6	1	.90	8 48.62	3.036	1	.90	125 34 56.00	20.089
6	B.A.C. 43	6	...	...	.....	3.036	1	.91	122 7 23.81	20.036
7	B.A.C. 77	6½	2	.90	17 6 35	3.011	2	.90	121 42 43.06	19.999
8	β Hydri	3	9	.60	19 19.61	3.272	5 5	.62	167 56 28.57	20.244
9	B.A.C. 103	5	1	.80	21 52.89	2.988	1	.80	123 40 43.40	19.963
10	12 Ceti	6	3	.39	23 48.84	3.059	2	.40	94 37 55.46	19.936
11	B.A.C. 135	5½	3	.90	27 38.87	2.979	2	.91	120 13 49.46	19.909
12	B.A.C. 136	6	2	.90	27 41.90	2.957	2	.90	125 39 28.26	19.907
13	B.A.C. 140	5½	3	.87	28 12.44	2.570	5	.87	161 56 20.73	19.903
14	β Ceti	2½	8	.90	37 27.88	3.012	7	.90	108 39 24.71	19.806
15	B.A.C. 249	6½	3	.91	48 12.08	2.892	3	.91	122 59 48.76	19.612
16	B.A.C. 272	5	2	.89	52 43.66	2.897	1	.90	120 1 1.92	19.525
17	B.A.C. 277	7	2	.90	53 38.48	2.853	2	.90	125 17 46.25	19.507
18	ε Piscium	4	4	.90	56 36.62	3.112	3	.90	82 46 2.10	19.445
19	B.A.C. 289	6	1	.90	56 37.19	2.867	1	.90	122 12 33.21	19.445
20	B.A.C. 296	6½	1	.90	57 28.24	2.880	1	.90	120 10 50.34	19.427
21	B.A.C. 306	7	1	.90	58 47.12	2.842	1	.90	124 11 15.29	19.398
22	B.A.C. 326	7	3	.90	1 1 55.44	2.837	2	.91	123 27 55.55	19.327
23	B.A.C. 355	7	1	.92	5 25.03	2.829	1	.92	122 53 51.13	19.243
24	B.A.C. 362	6	1	.90	6 37.50	2.839	1	.90	121 26 55.55	19.213
25	B.A.C. 366	6	1	.89	7 6.78	2.804	...	...	.....	.....
26	B.A.C. 385	6	1	.92	10 27.87	2.792	1	.92	124 47 36.75	19.114
27	B.A.C. 421	6	1	.92	17 50.43	2.799	1	.92	121 34 51.66	18.909
28	θ Ceti	3	2	.93	17 55.50	2.996	...	...	.....	.....
29	B.A.C. 446	7	2	.94	23 3.77	2.793	2	.94	120 31 29.25	18.762
30	B.A.C. 458	6	1	.93	25 50.23	2.783	1	.93	120 36 54.14	18.664
31	α Eridani	1	1	.96	33 10.51	2.244	1	.96	147 51 24.81	18.408
32	ν Piscium	5	3	.93	35 4.99	3.114	3	.93	85 7 49.17	18.312
33	γ¹ Arietis	4½	1	.93	46 50.10	3.275	1	.93	71 18 10.42	17.914
34	β Arietis	3	1	.96	47 54.02	3.298	1	.96	69 47 22.39	17.762
35	B.A.C. 627	6	1	.93	55 47.79	3.691	1	.93	120 35 20.33	17.548
36	B.A.C. 643	5½	2	.94	59 1.46	2.692	2	.94	119 52 58.51	17.410
37	15 Arietis	6	1	.93	2 3 51.99	3.302	...	...	.....	.....
38	B.A.C. 688	5	3	.96	7 32.25	2.644	3	.96	121 17 48.63	17.028
39	67 Ceti	6	...	...	.....	2.987	1	.95	96 59 8.37	16.730
40	B.A.C. 713	6	1	.96	12 10.00	2.533	1	.96	126 32 59.97	16.811

Catalogue of Concluded Mean Places,

No.	Name of Star.	Mag.	Number of Obs. of R.A.	Fraction of the Year for Mean.	Mean R.A. 1878, Jan. 1.	Precession in R.A.	Number of Obs. of N.P.D.	Fraction of the Year for Mean.	Mean of N.P.D. 1878, Jan. 1.	Precession in N.P.D.		
					h.	m.	s.	s.	s.p.	°	'	"
41	B.A.C. 742	6	2	.96	2 17 55.01	+2.629	3	.96	120 25 16.16	16.531		
42	ξ^2 Ceti	4	4	.97	21 40.42	3.181	4	.97	82 5 16.78	16.321		
43	B.A.C. 788	6	2	.96	28 2.05	2.500	2	.96	125 11 13.90	15.915		
44	B.A.C. 803	6	1	.96	30 53.92	2.590	1	.96	120 34 38.48	15.862		
45	B.A.C. 809	6	2	.96	31 54.93	2.495	2	.96	125 6 0.12	15.807		
46	γ^2 Ceti	3	3	.96	36 58.69	3.102	4	.96	87 18 47.75	15.389		
47	B.A.C. 873	6	2	.96	42 37.10	2.440	2	.96	126 3 35.72	15.214		
48	B.A.C. 879	5	1	.95	43 59.32	2.506	1	.95	122 55 6.63	15.136		
49	B.A.C. 923	6	1	.96	51 54.49	2.415	2	.96	125 52 11.52	14.672		
50	α Ceti	2 $\frac{1}{2}$	5	.78	55 54.17	3.129	6	.81	86 23 24.84	14.320		
51	δ Arietis	4	4	.72	8 4 39.25	3.420	4	.72	70 44 10.83	13.888		
52	B.A.C. 1015	6	1	.96	9 52.61	2.358	1	.96	126 0 44.22	13.566		
53	B.A.C. 1019	6	1	1.00	11 9.80	2.472	1	1.00	121 16 42.86	13.473		
54	B.A.C. 1042	6	1	.96	14 30.33	2.360	1	.96	125 26 50.22	13.255		
55	σ Tauri	4 $\frac{1}{2}$	3	.98	18 14.85	3.226	3	.98	81 24 7.28	13.007		
56	B.A.C. 1082	6	1	1.00	22 50.24	2.329	1	1.00	126 6 22.32	12.700		
57	ϵ Eridani	3	4	.26	27 10.95	2.823	4	.26	99 52 21.21	12.360		
58	B.A.C. 1109	6	1	1.00	29 40.50	2.405	1	1.00	122 16 59.25	12.230		
59	B.A.C. 1121	6	1	.99	32 10.33	2.451	1	.99	120 18 56.36	12.057		
60	B.A.C. 1150	5	1	1.00	37 24.12	2.386	1	1.00	122 19 48.95	11.688		
61	η Tauri	3	4	.27	40 13.97	3.553	4	.27	66 16 26.57	11.424		
62	γ Eridani	2 $\frac{1}{2}$	4	.27	52 20.27	2.794	4	.27	103 51 25.78	10.480		
63	41 Tauri	6	1	.04	59 7.55	3.667	1	.04	62 48 51.53	10.092		
64	σ Eridani	4 $\frac{1}{2}$	4	.03	4 5 54.64	2.923	4	.03	97 9 27.33	9.644		
65	ϕ Tauri	5	1	.04	12 51.23	3.681	1	.04	62 56 36.02	9.038		
66	B.A.C. 1333	3 $\frac{1}{2}$	5	.05	13 16.65	2.266	5	.05	124 5 50.30	9.004		
67	B.A.C. 1374	6	3	.04	20 25.33	2.224	3	.04	125 2 3.73	8.442		
68	B.A.C. 1376	3 $\frac{1}{2}$	4	.05	21 29.56	3.488	4	.05	71 5 32.02	8.356		
69	B.A.C. 1411	6	2	.05	26 50.32	1.991	3	.05	131 26 13.51	7.981		
70	α Tauri	1	5	.06	28 55.22	3.436	5	.06	73 44 17.18	7.589		
71	B.A.C. 1471	6	5	.07	39 20.79	2.412	5	.07	117 48 17.30	6.912		
72	B.A.C. 1513	6	1	.08	47 24.86	2.203	1	.08	124 26 40.79	6.246		
73	ι Aurige	3	4	.07	49 2.99	3.895	4	.07	57 1 45.06	6.087		
74	ϵ Leporis	4	7	.07	5 0 17.81	2.536	7	.07	112 32 12.00	5.094		
75	B.A.C. 1605	6	5	.07	5 7.09	1.212	4	.07	145 8 55.38	4.757		
76	α Aurige	1	1	.05	7 40.84	4.423	1	.05	44 7 44.41	4.106		
77	β Orionis	1	7	.09	8 40.52	2.880	7	.09	98 20 40.71	4.432		
78	B.A.C. 1679	6	2	.06	17 55.28	2.744	2	.06	104 2 38.76	3.660		
79	β Tauri	2	3	.11	18 34.89	3.790	3	.11	61 29 53.15	3.402		
80	B.A.C. 1713	6	2	.06	22 30.60	2.411	2	.06	116 41 16.87	3.265		
81	δ Orionis	2	2	.12	25 46.40	3.064	2	.12	90 23 29.57	2.941		
82	B.A.C. 1745	6	3	.08	27 22.65	1.867	3	.08	132 23 35.06	2.844		
83	B.A.C. 1781	6	1	.05	32 15.30	2.140	1	.05	125 8 20.76	2.422		
84	α Columbae	2	4	.10	35 13.94	2.179	4	.10	124 8 25.24	2.162		
85	α Orionis	1	6	.11	48 33.97	3.246	6	.11	82 37 4.33	0.997		
86	B.A.C. 1917	6	1	.05	52 8.65	1.825	1	.05	142 39 49.20	0.687		
87	B.A.C. 1922	4	...	...	.....	.....	2	.29	125 17 50.30	-0.595
88	ν Orionis	4 $\frac{1}{2}$	2	.11	6 0 36.32	3.426	2	.11	75 13 9.50	+0.075		
89	B.A.C. 2027	6	1	.15	11 15.15	2.311	1	.15	119 44 53.99	0.984		
90	B.A.C. 2034	4 $\frac{1}{2}$	...	...	.....	.....	1	.27	125 6 3.54	1.058
91	μ Geminorum	3	6	.13	15 34.81	3.632	5	.14	67 25 33.45	1.505		
92	B.A.C. 2079	5 $\frac{1}{2}$	...	...	.....	.....	1	.27	126 38 41.50	1.731
93	α Argus	1	1	.13	21 14.65	1.330	1	.13	142 37 45.07	1.857		
94	B.A.C. 2109	4 $\frac{1}{2}$	...	...	.....	.....	1	.29	122 30 16.26	2.056
95	B.A.C. 2158	5	...	...	.....	.....	2	.28	126 8 31.08	2.568
96	γ Geminorum	2 $\frac{1}{2}$	6	.14	30 39.85	3.466	6	.14	73 29 55.53	2.718		
97	α Canis Majoris	1	4	.13	39 46.15	2.646	3	.14	106 33 3.21	4.706		
98	B.A.C. 2225	6	2	.16	42 1.37	2.061	4	.18	127 38 43.76	3.656		

No.	Name of Star.	Mag.	Number of Obs. of R.A.	Fraction of the Year for Mean.	Mean R.A. 1878, Jan 1.	Pre-cession in R.A.	Number of Obs. of N.P.D.	Fraction of the Year for Mean.	Mean N.P.D. 1878, Jan 1.	Pre-cession in N.P.D.
					h. m. s.	s.			° ' "	"
99	B.A.C. 2251	5 $\frac{1}{2}$	5	.18	6 45 46.87	+ 2.271	5	.18	121 34 54.11	+ 3.980
100	B.A.C. 2252	5	...	...	...	2.184	4	.28	124 18 27.16	4.027
101	ε Canis Majoris	2 $\frac{1}{2}$	8	.16	53 49 29.2	2.357	8	.16	118 48 25.66	4.689
102	γ Canis Majoris	4	7	.18	58 14 38	2.717	7	.18	105 27 16.37	5.054
103	δ Geminorum	3 $\frac{1}{2}$	6	.20	7 12 50.16	3.591	7	.20	67 47 42.11	6.289
104	B.A.C. 2443	6 $\frac{1}{2}$	5	.19	17 30 90	2.275	6	.19	122 21 20.02	6.654
105	α ² Geminor.	1 $\frac{1}{2}$	5	.21	26 48 49.1	3.840	5	.21	57 50 45.27	7.499
106	B.A.C. 2496	6	4	.18	27 45 53	1.360	5	.18	144 8 32.40	7.491
107	α Canis Minoris	1	4	.22	32 54 82	3.143	3	.22	84 27 50.97	8.993
108	B.A.C. 2538	6	4	.20	34 48 38	2.745	5	.20	104 58 57.14	8.061
109	β Geminor.	2	4	.21	37 50 94	3.679	4	.21	61 40 52.85	8.368
110	B.A.C. 2568	6	3	.21	39 23 52	2.140	4	.20	127 54 39.89	8.428
111	B.A.C. 2600	6 $\frac{1}{2}$	4	.20	43 56 16	2.343	5	.20	121 18 50.16	8.786
112	B.A.C. 2629	5	5	.22	47 42 31	2.258	5	.22	124 23 58.53	9.081
113	6 Cæncri	5 $\frac{1}{2}$	3	.21	56 1 42	3.693	3	.21	61 51 55.30	9.797
114	B.A.C. 2696	5 $\frac{1}{2}$	2	.22	57 50 05	1.485	3	.21	143 48 47.07	9.862
115	15 Argus "Navis"	3	5	.23	8 2 20.81	2.554	6	.22	113 57 12.72	10.147
116	B.A.C. 2769	5	4	.24	7 43 52	2.760	5	.23	105 25 18.01	10.674
117	B.A.C. 2774	5	1	.27	8 53 32	2.265	4	.28	125 32 54.52	10.693
118	B.A.C. 2820	6	3	.22	18 46 48	2.219	3	.23	127 53 37.00	11.414
119	Lacaille 3298	7	4	.24	18 47 63	2.476	4	.24	118 34 39.70	11.416
120	B.A.C. 2843	6	3	.22	22 22 16	2.414	5	.23	121 16 16.49	11.672
121	η Canceris	6	4	.24	25 39 04	3.477	5	.23	69 8 45.71	11.966
122	B.A.C. 2929	5 $\frac{1}{2}$	5	.24	34 14 48	2.848	6	.24	102 2 43.89	12.364
123	B.A.C. 2935	5	1	.27	35 19 75	2.331	3	.28	124 52 34.48	12.575
124	B.A.C. 2960	6	2	.25	37 44 39	1.479	2	.25	147 6 37.44	12.738
125	B.A.C. 2974	6	2	.25	40 10 23	2.311	...	...	...	...
126	ε Hydræ	4	2	.23	40 18 90	3.182	2	.23	83 8 59.93	12.953
127	B.A.C. 3006	6	6	.23	44 54 19	2.438	7	.23	122 19 32.92	13.219
128	κ Canceris	5	3	.25	9 1 5 30	3.256	6	.24	78 50 31.59	14.252
129	83 Canceris	6	6	.24	12 10 26	3.355	7	.24	71 46 43.72	15.075
130	α Hydræ	2	6	.24	21 35 53	2.947	4	.24	98 7 50.51	15.423
131	ε Leonis	3	2	.25	38 55 41	3.417	2	.25	65 39 54.03	16.394
132	π Leonis	4 $\frac{1}{2}$	4	.30	53 45 00	3.175	4	.30	81 22 18.00	17.120
133	α Leonis	1	3	.32	10 1 52 37	3.200	3	.32	77 26 15.86	17.440
134	γ Leonis	2	5	.31	13 14 70	3.315	5	.31	69 32 32.36	18.069
135	ρ Leonis	4	5	.31	26 23 14	3.165	5	.31	80 4 0.48	18.436
136	λ Leonis	6	2	.31	42 50 60	3.157	3	.32	78 48 35.60	18.949
137	B.A.C. 3763	6	4	.34	53 28 31	2.824	5	.34	123 4 57.93	19.215
138	χ Leonis	4 $\frac{1}{2}$	3	.33	58 43 41	3.098	4	.34	82 0 19.52	19.422
139	δ Leonis	2 $\frac{1}{2}$	4	.34	11 7 37 12	3.201	5	.34	68 48 31.49	19.673
140	δ Crateris	3 $\frac{1}{2}$	5	.34	13 14 52	2.995	5	.34	104 7 7.44	19.459
141	ν Leonis	4 $\frac{1}{2}$	6	.35	30 42 14	3.069	7	.35	90 9 2.86	19.860
142	β Leonis	2 $\frac{1}{2}$	10	.35	42 50 16	3.064	11	.35	74 44 48.27	20.098
143	ε Corvi	4	12	.37	12 3 51 02	3.076	10	.37	111 56 29.48	20.041
144	β Chamaeleontis	5	10	.51	11 12 92	3.353	5	.59	168 38 4.15	20.039
145	η Virginis	3 $\frac{1}{2}$	6	.39	18 39 87	3.065	8	.39	89 59 21.06	20.049
146	B.A.C. 4183	6	4	.39	18 56 10	3.148	4	.39	124 31 38.57	19.985
147	B.A.C. 4214	6	4	.51	23 54 43	3.131	4	.51	113 1 19.57	19.945
148	B.A.C. 4236	6	3	.51	28 6 48	3.230	4	.51	133 59 35.14	19.903
149	β Corvi	2 $\frac{1}{2}$	12	.38	28 58 80	3.183	10	.38	112 43 19.89	19.974
150	χ Virginis	5	1	.36	32 56 98	3.097	1	.36	97 19 28.79	19.847
151	γ ¹ Virginis	4	1	.35	35 28 72	3.075	5	.39	90 46 46.71	19.814
152	γ ² Virginis	3 $\frac{1}{2}$	1	.37	35 28 81	3.075	3	.39	90 46 52.45	19.814
153	γ Virginis mean	4	9	.45	35 28 74	3.088	4	.51	90 46 49.41	19.864
154	α Canum Venaticor.	2 $\frac{1}{2}$	8	.42	50 19 21	2.814	9	.42	51 1 21.37	19.512
155	θ Virginis	4 $\frac{1}{2}$	9	.45	13 3 38 06	3.100	10	.44	94 53 15.38	19.326
156	α Virginis	1	8	.43	18 45 99	3.151	8	.43	100 31 28 05	18.920

Catalogue of Concluded Mean Places,

No.	Name of Star.	Mag.	Number of Obs. of R.A.	Fraction of the Year for Mean.	Mean R.A. 1878, Jan. 1.	Pre-cession in R.A.	Number of Obs. of N.P.D.	Fraction of the Year for Mean.	Mean N.P.D. 1878, Jan. 1.	Pre-cession in N.P.D.				
									°	'	"			
					h.	m.	s.	s.	s.p.	°	'	"		
157	ζ Virginis	4	6	.43	13	28	28.66	+ 3°053	3	.42	89	58	18.60	18.518
158	B.A.C. 4541	6	3	.46		30	2.57	3°320	5	.45	115	52	20.34	18.526
159	B.A.C. 4601	3½	4	.45		42	11.45	3°574	5	.45	131	5	44.82	18.093
160	η Boötis	3	4	.45		48	52.56	2°858	4	.45	70	59	25.62	18.198
161	τ Virginis	4½	1	.47		55	26.33	3°049	1	.47	87	51	53.41	17.632
162	B.A.C. 4686	2½	4	.45		59	30.49	3°551	5	.45	125	46	7.64	17.389
163	B.A.C. 4722	6	1	.44	14	8	40.76	3°298	1	.44	107	37	51.91	16.975
164	Boötis	1	3	.46		10	5.74	2°734	1	.47	70	10	56.76	18.837
165	B.A.C. 4740	6	5	.45		12	5.70	3°415	5	.45	115	15	50.88	16.814
166	B.A.C. 4760	6	4	.45		15	37.67	3°735	4	.45	131	41	44.79	16.643
167	ρ Boötis	4	6	.47		26	34.26	2°587	6	.47	59	5	33.79	15.950
168	B.A.C. 4852	5	4	.46		36	12.02	3°653	4	.46	124	38	50.69	15.574
169	ε² Boötis	3	7	.51		39	39.60	2°619	6	.52	62	24	40.72	15.371
170	B.A.C. 4880	5	3	.45		40	37.65	3°484	3	.45	115	34	30.68	15.326
171	α Librae	3	5	.53		44	7.85	3°309	5	.53	105	32	2.97	15.186
172	ψ Boötis	5	2	.51		59	13.12	2°570	2	.51	62	34	33.66	14.227
173	B.A.C. 4973	5	4	.54	15	0	37.85	4°006	5	.53	134	48	32.21	14.141
174	B.A.C. 5032	4½	4	.56		10	24.56	3°635	5	.54	119	42	56.53	13.521
175	β Librae	2½	3	.47		10	26.62	3°219	2	.47	98	55	56.46	13.528
176	B.A.C. 5118	3	4	.51		27	0.81	3°975	5	.53	130	45	17.63	12.414
177	α Coronæ	2½	2	.55		29	31.38	2°539	2	.55	62	52	26.75	12.310
178	B.A.C. 5151	4½	2	.55		31	9.83	3°670	4	.54	119	22	29.29	12.127
179	α Serpentis	2½	3	.57		38	15.50	2°951	3	.57	83	11	23.77	11.576
180	B.A.C. 5202	6	1	.55		39	34.18	3°910	3	.54	127	31	41.38	11.536
181	β¹ Scorpii	2	6	.54		58	20.66	3°478	6	.54	109	28	12.08	10.170
182	δ Ophiuchi	3	7	.56	16	7	57.19	3°136	6	.55	93	22	44.03	9.547
183	α Scorpii	1	6	.57		21	55.63	3°669	6	.57	116	9	33.49	8.350
184	B.A.C. 5533	6	3	.59		27	48.03	4°201	3	.59	132	36	16.55	7.852
185	B.A.C. 5538	5	2	.59		28	20.86	3°933	2	.59	125	0	6.72	7.808
186	ζ Herculis	3	4	.58		36	41.33	2°263	5	.58	58	10	30.89	6.679
187	B.A.C. 5633	6	3	.59		42	19.02	3°644	3	.59	114	25	29.49	6.668
188	κ Ophiuchi	4	8	.58		51	53.64	2°834	7	.59	80	26	3.70	5.850
189	α¹ Herculis	3½	6	.60	17	9	5.07	2°731	5	.60	75	28	9.67	4.377
190	θ Ophiuchi	3½	8	.61		14	31.07	3°677	8	.61	114	52	33.26	3.931
191	d Ophiuchi	4	2	.60		19	33.85	3°823	1	.60	119	45	17.35	3.520
192	α² Ophiuchi	2	9	.60		29	16.29	2°779	8	.61	77	21	0.83	2.879
193	μ Herculis	4	9	.62		41	41.05	2°344	11	.62	62	12	25.51	2.339
194	B.A.C. 6055	6	4	.60		47	53.38	4°373	4	.60	134	19	7.04	1.060
195	B.A.C. 6088	6	3	.59		54	31.16	3°632	3	.59	112	46	29.75	+ 0.480
196	μ Sagittarii	3½	12	.65	18	6	28.03	3°584	12	.65	111	5	19.80	- 0.559
197	σ Octantis	5½	8	.66		20	55.86	109°708	10	.65	179	16	33.62	2.138
198	B.A.C. 6277	6	3	.64		22	22.60	4°267	3	.64	131	59	30.65	1.956
199	B.A.C. 6330	6½	2	.72		30	0.24	4°542	2	.72	138	0	45.71	2.618
200	α Lyrae	1	11	.66		32	48.43	2°030	11	.66	.51	19	44.18	3.142
201	B.A.C. 6415	6	5	.71		44	48.63	3°603	5	.71	112	3	46.43	3.897
202	β¹ Lyrae	3	6	.65		45	34.56	2°212	6	.65	56	46	40.66	3.933
203	B.A.C. 6439	7	3	.71		47	41.66	3°807	4	.71	119	21	53.47	4.144
204	ζ Aquilæ	3	3	.68		59	48.15	2°752	4	.68	76	19	0.59	5.106
205	B.A.C. 6523	5	3	.71		59	51.03	4°180	4	.71	130	41	0.61	5.178
206	ω Aquilæ	5	2	.65	19	12	5.35	2°814	3	.68	78	37	23.12	6.227
207	B.A.C. 6592	6	3	.71		13	0.01	4°858	4	.71	144	38	50.81	6.280
208	δ Aquilæ	3½	5	.69		19	20.85	3°023	5	.69	87	7	38.28	6.907
209	B.A.C. 6664	7	1	.74		21	39.04	3°415	2	.74	105	20	56.26	6.994
210	B.A.C. 6668	7½	1	.70		22	36.61	3°421	1	.70	105	36	28.95	7.074
211	B.A.C. 6689	6	2	.71		26	9.97	4°468	4	.74	138	21	35.33	7.363
212	h² Sagittarii	4½	3	.70		29	16.83	3°655	3	.72	115	9	3.90	7.639
213	γ Aquilæ	3	5	.73		40	27.57	2°853	6	.73	79	40	58.75	8.513
214	α Aquilæ	1½	6	.73		44	49.83	2°928	6	.73	81	27	9.42	9.237

No.	Name of Star.	Mag.	Number of Obs. of R.A.	Fraction of the Year for Mean.	Mean R.A. 1878. Jan. 1.	Pre-cession in R.A.	Number of Obs. of N.P.D.	Fraction of the Year for Mean.	Mean N.P.D. 1878. Jan. 1.	Pre-cession in N.P.D.
215	β Aquilæ	3 $\frac{1}{2}$	6	.73	19 49 19.18	+2.947	7	.73	83 53 49.32	-8.739
216	B.A.C. 6864	6	...	...	...	3.571	1	.76	113 4 15.76	9.580
217	B.A.C. 6889	6	2	.72	57 47.36	3.534	3	.71	111 39 23.78	9.859
218	α^1 Capricorni	4	2	.70	20 10 53.05	3.329	2	.70	102 53 2.64	10.840
219	α^2 Capricorni	3	4	.75	11 17.08	3.331	5	.75	102 55 19.67	10.872
220	ρ Capricorni	5	4	.73	21 54.08	3.425	2	.73	108 12 57.68	11.631
221	B.A.C. 7058	5	4	.74	23 16.47	3.135	4	.74	93 17 27.58	11.736
222	α Cygni	1	3	.75	37 16.37	2.042	3	.75	45 9 17.84	12.708
223	B.A.C. 7201	4	3	.73	41 17.87	3.170	5	.73	95 28 25.39	12.977
224	B.A.C. 7289	4 $\frac{1}{2}$	4	.73	46 4.38	3.238	4	.73	99 26 25.50	13.292
225	32 Vulpeculae	4 $\frac{1}{2}$	6	.75	49 21.57	2.554	6	.75	62 24 21.30	13.508
226	61 1 Cygni	5 $\frac{1}{2}$	5	.75	21 1 26.02	2.673	5	.75	51 50 56.39	17.483
227	ζ Cygni	3	4	.76	7 44.59	2.548	4	.76	60 16 21.87	14.588
228	B.A.C. 7445	4	4	.75	19 41.92	3.436	5	.75	112 56 19.86	15.345
229	B.A.C. 7475	6	5	.75	24 51.60	3.646	4	.75	124 28 50.93	15.632
230	β Aquarii	3	3	.80	25 8.14	3.161	3	.80	96 6 24.84	15.618
231	B.A.C. 7557	4 $\frac{1}{2}$	3	.83	37 40.52	3.588	2	.83	128 34 53.56	16.310
232	ϵ Pegasi	2 $\frac{1}{2}$	6	.77	38 11.62	2.948	5	.78	80 40 59.48	16.338
233	16 Pegasi	5 $\frac{1}{2}$	9	.80	47 30.59	2.727	8	.80	64 38 54.01	16.787
234	α Aquarii	3	4	.77	59 31.03	3.080	4	.77	90 54 43.38	17.327
235	α Groris	2	1	.79	22 0 31.59	3.811	1	.79	137 33 1.57	17.211
236	B.A.C. 7702	6 $\frac{1}{2}$	2	.83	1 17.29	3.529	2	.85	124 38 15.91	17.423
237	θ Aquarii	4 $\frac{1}{2}$	4	.80	10 23.69	3.169	4	.80	98 23 25.68	17.775
238	B.A.C. 7790	5	2	.81	14 52.22	3.313	1	.79	112 12 34.17	17.981
239	B.A.C. 7795	3	3	.81	15 21.35	3.093	2	.83	92 0 7.27	17.999
240	B.A.C. 7828	4	4	.80	21 58.24	3.609	4	.79	134 7 4.37	18.247
241	η Aquarii	4	6	.82	29 5.17	3.082	5	.81	90 44 46.89	18.438
242	ζ Pegasi	3	3	.82	35 22.67	2.987	3	.82	79 49 19.57	18.704
243	67 Aquarii	6	1	.77	36 52.24	3.136	...	...	...	...
244	B.A.C. 7930	6	2	.81	38 50.57	3.297	2	.81	115 52 40.12	18.810
245	B.A.C. 7980	3	1	.80	48 10.38	3.194	1	.80	106 28 6.68	19.077
246	α Piscis Australis	1	2	.83	50 54.35	3.326	3	.82	120 16 6.23	18.969
247	α Pegasi	2	3	.83	58 41.03	2.984	3	.83	75 27 4.69	19.321
248	B.A.C. 8085	5	1	.80	23 8 0.60	3.108	1	.80	96 42 26.18	19.540
249	γ Piscium	4 $\frac{1}{2}$	2	.85	10 50.53	3.106	2	.85	87 23 3.69	19.585
250	κ Piscium	5 $\frac{1}{2}$	2	.85	20 40.72	3.075	2	.85	89 24 44.89	19.640
251	B.A.C. 8232	5	2	.86	33 27.38	3.086	3	.85	104 53 48.01	19.919
252	δ Sculptoris	5	3	.87	42 34.33	3.197	3	.87	118 48 16.89	19.896
253	B.A.C. 8313	6 $\frac{1}{2}$	1	.91	48 58.05	3.113	1	.91	122 35 59.87	20.081
254	ω Piscium	4 $\frac{1}{2}$	5	.87	53 2.72	3.078	5	.86	83 48 43.71	19.914





